An Address

ON THE

CLINICAL SIGNIFICANCE OF SPONTANEOUS HAEMORRHAGE AS AN EARLY SIGN OF DISEASE.

DELIVERED TO THE NEWCASTLE-ON-TYNE CLINICAL SOCIETY.

BY GEORGE R. MURRAY, M.A., M.D., D.C.L., F.R.C.P.,

PROFESSOR OF SYSTEMATIC MEDICINE IN THE VICTORIA UNIVERSITY, AND PHYSICIAN TO THE ROYAL INFIRMARY, MANCHESTER; CONSULTING PHYSICIAN TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

ON this occasion I wish to draw attention to the significance of haemorrhage as an early sign of disease. I shall also give some illustrations which show that unexpected haemorrhage, even when copious in amount, may sometimes be followed by no untoward results.

It may be considered that the importance of haemorrhage is already sufficiently recognized, not only by medical men but by people in general, as the occurrence of haemorrhage without any obvious cause, such as an injury, is naturally an alarming event, which usually leads to medical advice being sought at the earliest opportunity. Unfortunately, we meet with cases in which the importance of, at any rate, small haemorrhages has been underestimated, and so the onset of serious disease has escaped detection until irreparable damage has been done. Thus, how often has the neglect of the warning given by slight or irregular haemorrhages from the rectum or from the uterus in cases of carcinoma resulted in the disease reaching such an advanced stage before a medical man is consulted that removal is no longer possible? I shall not speak of losses of blood due to some easily recognized cause, such as an injury, or a definite disease such as pulmonary tuberculosis, the existence of which has already been recognized. The haemorrhage I propose to consider is that which occurs unexpectedly, either when the patient is apparently in good health or in association with symptoms which do not account for its onset.

Haemorrhage from any source may be of importance for two separate reasons. Firstly, it may be an important indication of disease owing to the site at which it occurs and the circumstances in which it arises, quite apart from the amount of blood which is actually lost. Secondly, it may be of importance owing to the quantity of blood which is lost and the secondary anaemia which this loss entails. Under many conditions the importance of a haemorrhage is proportional to the amount of blood which is lost, but this is by no means always the case. A small haemorrhage may prove to be of far greater importance than a large one as an indication of disease. This may at first sight appear to be a paradox, but under certain circumstances a minute haemorrhage may be the earliest sign of the development of a serious disease, while a copious haemorrhage resulting from a trifling breach of surface may prove to be of no importance beyond the temporary effect of the loss of blood, which is soon made up again. It will be realized, therefore, how important the subject is, and how difficult it is in some cases to estimate the full significance of an unexpected haemorrhage. When in doubt it is certainly better to overestimate the importance of this symptom and treat it accordingly than to under-estimate it and treat it lightly. The investigation of a case of haemorrhage may tax all our experience and resources, but the diagnosis of the true cause is a question of the greatest interest, which may well call into play our best powers of observation. In the time at our disposal we cannot consider all the possible causes of haemorrhage in disease. Many of the common causes of haemorrhage are so well known that I shall only consider some forms of haemorrhage and the lessons that may be learnt from them.

In the first place let us consider the significance of bleeding from the nose. This is such a common event that even a sharp attack of epistaxis does not give rise to alarm unless it be unduly prolonged. In some persons it is readily started by a very slight injury and in others it occurs from time to time without any apparent reason, and careful examination may reveal no nasal disease to account for it. There are, of course, many local nasal diseases which may be accompanied by epistaxis, but to these I shall not refer further. When epistaxis occurs with fever it may be an early symptom of enteric fever, especially if it is associated with frontal headache.

As an example of unexpected epistaxis in association with another infection, the following case, which I saw with Dr. Surridge, is of interest:

A lady, aged 47, had been taken ill a week before with fever; the temperature at first was only 100°. On each of the last three evenings preceding the day of my visit the temperature had risen to 103°, and there had been recurring attacks of epistaxis. The only two symptoms were the fever and the epistaxis. The latter had not been sufficient to require special means to check it, as the patient felt relieved by each loss of blood. This association of symptoms at first suggested the onset of enteric fever, especially as some little time before there had been a limited epidemic of typhoid fever in the neighbourhood. The spleen, however, was not enlarged; there was no distension of the abdomen; there were no rose-coloured spots, and the Widal reaction was negative. It was ascertained that there had been a fair number of cases of influenza in the district, and that in several cases fever and epistaxis were the only symptoms. We came to the conclusion, therefore, that this was a case of influenza with epistaxis. The epistaxis did not recur, and after several days the temperature became normal without the development of any other symptoms. Influenza is a curious disease, in that the symptoms vary in different epidemics and in different districts. Thus, in one area the disease may be mainly characterized by bronchitis and bronchopneumonia, in another by gastro-intestinal catarrh, or, as in this case, by epistaxis, though this is not a very common event.

The occurrence of epistaxis in granular kidney and arterio-sclerosis is well known. A sudden attack of epistaxis occurring in a man who has passed middle age may be the first indication that he is suffering from granular kidney. This symptom naturally leads us to examine the urine, take the blood pressure, and make an ophthalmoscopic examination. It is remarkable how advanced a stage of the disease we may find to be present in a patient who comes first under observation for an attack of epistaxis.

The importance of haemoptysis is well known, and by far the commonest cause is pulmonary tuberculosis; it may be the earliest symptom to attract attention. Any haemorrhage from the lungs should naturally lead us to suspect pulmonary tuberculosis and take every pains to ascertain if it is present. An aneurysm or new growth in the lung or a pulmonary infarction may all cause a spitting of blood. Errors, however, may arise from various causes. Dr. Bramwell, in his Address in Medicine at the Annual Meeting of the British Medical Association at Birmingham, gave an illustration of how the haemoptysis which occurs in association with mitral stenosis may lead to a wrong conclusion as to its cause if the chest is not thoroughly examined. Bronchial haemorrhage may be brisk and yet never recur. I remember one case in a man, a butler by occupation, who had a profuse haemoptysis, in whom there were no physical signs. The haemorrhage, I believe, never recurred, and no other symptoms developed, and certainly more than ten years afterwards he was well and in a situation. This case was an example of haemorrhage from the bronchial mucous membrane allied to some forms of epistaxis and to gastrostaxis as described by Dr. Hale White.

In another case, a young man, a personal friend of my own, had some slight haemoptysis, which we concluded at the time came from the lungs. He had an attack again when staying in Ireland, and a laryngoscopic examination, which was made by the physician who saw him at the time, revealed the fact that the blood came from a dilated vein in the glosso-epiglottic fold, which was actually bleeding at the time of the examination. I afterwards saw the vein myself, but never when it was bleeding. This is now many years ago, and the patient is in excellent health. Haemorrhage from the gums may sometimes be

mistaken for haemoptysis, as in a case mentioned by Dr. William Murray in his *Rough Notes on Remedies.*

When blood is passed with the urine it may come from any part of the urinary tract, from the kidney down to the urethra. Generally speaking, we have to distinguish blood which comes from the kidney or its pelvis from that which comes from the bladder or prostate. When blood comes from the kidney it is uniformly distributed through the urine. If small in amount it may make the urine "smoky," and there may be the "beef-tea" deposit; if abundant it may impart a bright red colour to the urine. Blood which comes from the bladder or prostate appears chiefly at the end of micturition, as may be demonstrated by getting the patient to micturate into three different glasses in succession. Haematuria may occur in tuberculosis of the kidney and in the early stages of a new growth of the kidney, and may be produced also by the presence of a renal calculus. It may occur also in acute Bright's disease and in chronic granular kidney; in the former case the cause is generally obvious. A profuse attack of haematuria should always lead to a careful examination of the urine, the blood pressure, and the heart, to ascertain whether there is any evidence of a chronic granular kidney.

Apart from these well-known causes, I wish to draw attention to cases in which a sharp attack of haematuria proves to be of no importance, and, on the other hand, to some cases in which a trifling attack is in reality an early indication of the presence of serious renal or vesical disease. There is an interesting form of haematuria which occurs apart from any organic disease; it is known as "essential renal haematuria," and has been described by Senator, and recently in this country by Dr. Hale White. In this disease recurring attacks of haematuria take place. In some cases the loss of blood has been sufficient to endanger life, though it is rarely fatal. In cases in which an operation has been performed, the kidney has been found to be quite healthy, and, curiously enough, in some the attacks have ceased after a simple nephrotomy. In some cases presenting similar clinical features the haemorrhage has proved to be due to an angioma of a renal papilla, but these, of course, are not cases of "essential renal haematuria" and require a nephrectomy to remove the source of the haemorrhage. There is, however, another variety of haematuria in which a single attack, or two or three attacks, of haematuria occur close together, without subsequent recurrence. These may be termed examples of accidental haematuria. These cases are apt to give rise to a good deal of anxiety at the time, as the loss of blood may be considerable. The absence of subsequent recurrences during a long period of years of good health shows clearly that in these cases there is no structural change in the kidney. Two personal friends of my own, one a physician and the other a surgeon, each had such an attack a good many years ago. I saw each of them at the time, and in both cases we could find no cause for the haematuria. It ceased within a few days, and has not, as far as I know, recurred, and both are in good health. In another case the haematuria was induced by a sudden chilling of the surface of the body by bathing in cold water when heated by exercise. A clergyman, while on a holiday in the Lake District in the month of August, took a long walk, and as he felt very hot he bathed in a mountain stream. After doing this he twice passed red urine, which evidently contained blood. He had another similar attack on his return home after a walk, and his medical adviser said that the urine contained blood. He was told at the time that the haematuria was due to a renal calculus. When I saw him I ascertained that he had never had any renal colic, and there was no pain or tenderness on pressure in either renal region. There was no frequency in micturition and the urine was normal. I came to the conclusion that it was a case of accidental haematuria. This opinion was evidently correct, as I happened to meet him some years afterwards and he told me he had had no return of the symptoms.

In some cases a trifling form of haematuria may on further investigation prove to be an early indication of definite disease, as is well illustrated by the wo following cases. A young lady, aged 18, a month before I saw her had strained herself and felt some pain in the lower part of the abdomen. On several occasions she had passed a few drops of blood at the end of micturition. A week previously she had again had pain and passed blood, but had felt no pain since. The left kidney was found to be movable, but it was not tender on moving it nor on grasping it between the two hands. She had some pain two days later. No further symptoms were noticed until some two months had elapsed, when she again passed a few drops of blood. She was requested to send the urine next time any bleeding occurred. Five months after the first attack she had a slight loss of blood as at the beginning for three days, and sent me a sample of the urine. On looking at this with the naked eye a small particle was visible floating in the urine. This was at once examined under the microscope, and was seen to be a small portion of a papilloma. I sent the patient to the late Professor Annandale, of Edinburgh, who wrote to me as follows:

"I put Miss A. under chloroform and made a cystoscopic examination of her bladder. Our diagnosis was confirmed, and I found a well-marked villous growth at the lower and posterior wall. The urethra was so readily dilatable that I was able to introduce my finger into the bladder and still further confirm the diagnosis, and also determine that the growth had a diameter of about a shilling, was quite superficial, and did not infiltrate the submucous tissues. It could easily be reached by the finger, and accordingly I scraped it away, partly by the finger nail and partly by a sharp spoon, and then by means of a lithotrity evacuator washed out the fragments. This allowed me to collect all the debris, which consisted entirely of villi, rounded in shape and soft in consistence." Microscopical examination showed that the growth was a typical papilloma of the bladder in a very early stage.

I mention this case because, although there had been several haemorrhages, the quantity of blood lost on each occasion only amounted to a few drops, and it was remarkable that a recognizable portion of the growth should be found at that stage in the first sample of urine examined microscopically.

The next case I wish to refer to also furnishes an illustration of how an immediate microscopic examination of a fresh sample of urine may supply information of the greatest value in determining the source of an obscure case of haematuria.

The case was that of a boy aged 16½, who, in December, 1911, was brought to see me by Dr. W. Turner, to whom I am indebted for the history of the case. The patient was born in Pondoland, S.A., and lived there until he was 12 years old. Subsequently he had resided in England, and the matron of the school to which he was sent informed his grandparents that she had frequently noticed what appeared to be the presence of some kind of discharge on the underclothing. During the summer of 1911, when the boy was 16 years old and had resided in England for four years, he became ill. He was noticed to be heavy and dull, especially after exertion or waiting longer than usual for his meals. The appetite was voracious, and he had frequent attacks of biliousness. He looked ill, the complexion was muddy, and the eyelids puffy. Physical examination revealed no abnormality in either chest or abdomen. The urine was found to be alkaline and of low specific gravity, and to contain albumin and red blood corpuscles, but no pus cells and no casts.

In September the Clinical Research Association examined the urine, with the following result: Reaction, slightly alkaline. Specific gravity, 1013. Albumin, fair amount. The centrifugalized deposit contained many red blood corpuscles and a few triple-phosphate crystals, but no tube casts, pus, renal epithelium, or other urinary abnormalities. Further examination by Dr. Almond of the urine in October showed the presence of red blood corpuscles, pus, and epethelial cells.

Early in December his general health was excellent, and he had lost his lassitude. He only complained of his sight becoming rather less distinct after reading for any length of time. The optic discs were normal. The systolic blood pressure was 121 mm., and the diastolic pressure 80 mm. The centrifugalized deposit of the urine contained a few red blood corpuscles and many pus cells, a few granular casts, a few oxalate crystals, and epithelial debris. At the end of December, when Dr. Turner brought him to see me, he was passing in the urine small masses of what appeared to be red blood clots. When I saw him there was nothing abnormal to be found on physical examination. We got the boy to pass a fresh sample of urine, in which with the naked eye a small pinkish mass could be seen floating. This was mounted at

once on a glass slide and examined under the microscope, when I found it was a small fresh clot of blood, in which were entangled some ova of the *Bilharzia haematobia*. This examination at once showed the true nature of a puzzling case, and clearly indicated that the boy was suffering from bilharziosis, which he had contracted in Pondoland at least five years before.

In connexion with renal disease I wish to allude to the significance of retinal haemorrhage. In this connexion also, although the amount of blood which actually escapes from the retinal vessels is very small, the significance is great, indicating an advanced stage of renal disease, and is of ill omen.

Gastro-intestinal haemorrhages are in some cases very difficult to explain. Apart from bleeding due to actual ulceration, we are familiar with haematemesis, which occurs in the early stages of splenic anaemia or from the rupture of an oesophageal varix in cases of alcoholic cirrhosis of the liver. Stadelmann[1] has recently shown that some cases of obscure gastro-intestinal haemorrhage are due to the rupture of idiopathic varicose veins which may occur in the stomach, in the small intestine, and in the rectum. Dr. Hale White has drawn attention to a special form of bleeding from the stomach which he has named gastrostaxis. In this condition when the stomach has been opened at an operation the blood has been found to be oozing from an area of congested mucous membrane. Dr. White[2] has suggested that such haemorrhages may be due to injury of the vessels in the mucous membrane by an endothelial toxin.

I wish in passing to call attention to the very profound secondary anaemia and prolonged ill-health which arises in some cases from small repeated haemorrhages, of almost daily occurrence, from haemorrhoids; the haemorrhage has been neglected by the patient and allowed to go on unchecked for years before medical advice is sought. In these cases the haemorrhage is not of importance as an indication of disease nor on account of the amount lost on any single occasion. It is the repeated small losses which impose so great a strain upon the blood-forming organs that a profound secondary anaemia results. The occurrence of these haemorrhages is not mentioned by the patient, perhaps from feelings of diffidence, and it is astonishing how long they are tolerated without complaint.

I have not spoken at all of haemorrhages arising in haemophilia, purpura, and allied diseases. These are generally recognized, and it is not necessary for me to do more than mention them. I have dealt only with a few aspects of what is a large and important subject, and one of general interest, and time will not permit me to go into the question of treatment, as my object has been to direct attention to the importance of arriving at a correct diagnosis in every case of obscure haemorrhage, so that the right treatment may be applied.

REFERENCES.
[1] *Berl. klin. Woch.*, May 5th, 1913; BRITISH MEDICAL JOURNAL, Epitome, October 18th, 1913. [2] *Lancet*, February 17th, 1912.

THE Khedive has founded a special hospital at Alexandria for the radical cure of hernia. The hospital will be housed in a pavilion of the great institution known as the Abbassi Asylum. It is to be called the Abbas II Hospital, and is to be under the surgical direction of Dr. Colloridi Bey.

A SCHOOL for health officers has recently been organized in connexion with Harvard University and the Massachusetts Institute of Technology. The organization of this school marks, it is said, a distinct epoch in the American Public Health Service. By the co-operation of the two institutions it will be possible for properly qualified persons, on payment of an annual fee of £50, to be admitted to all the resources of the Harvard Medical School and other departments of that university, as well as to the chemical, biological, sanitary, and engineering opportunities offered by a great modern technical school. No degree will be awarded on the completion of the course, but a certificate of public health (C.P.H.) will be given to all who go through the course satisfactorily. No degree is required for admission, but no one will be admitted who has not completed at least two years of ordinary college work, including chemistry, physics, biology, and French and German, or who is not otherwise specially qualified. Professor M. J. Rosenau of the Harvard Medical School is the Director.

A Lecture
ON
THE EARLY DIAGNOSIS AND OPERATIVE TREATMENT OF CARCINOMA OF THE CERVIX.

DELIVERED AT THE CANCER HOSPITAL, BROMPTON.

BY
HAROLD W. WILSON, M.S., F.R.C.S.,
ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE CANCER HOSPITAL.

IN my work at this hospital I have been struck by the hopelessly advanced stage of the disease in many of the patients who have applied for treatment of carcinoma of the cervix for the first time, and in the ordinary methods of dealing with it there seems to be a lack of the thoroughness and cleanness of dissection which have been applied with such success to the eradication of cancer in other more exposed and accessible organs, such as the breast and the tongue. It is therefore to the great importance of early and accurate diagnosis, and to modern lines of treatment, that I chiefly wish to direct your attention.

The cervix may be divided into:

1. That part which lies free within the cavity of the vagina and is covered with the stratified squamous epithelium of the vaginal mucous membrane.
2. The supravaginal portion, which lies embedded in the lowest portion of the pelvis in the mass of loose connective tissue called the parametrium.

This anatomical classification forms a very useful basis in discussing carcinoma. For the disease beginning in these two portions not only differs in its pathological characters, both macroscopic and microscopic, but also in its zone of spread, its liability to infect the neighbouring lymphatic glands, and, I think, to a certain extent also in its ultimate prognosis.

CLINICAL TYPES AND THEIR METHOD OF SPREAD.

Carcinoma arising from the free surface of the cervix grows partly outwards as an exuberant proliferating mass, partly downwards into the fibro-muscular stroma as long branching columns of atypical epithelial cells. Depending upon which of these two modes of growth is the more obvious, certain clinical pictures result, and an intimate knowledge of their appearances is essential for accurate diagnosis. Upon the early onset or otherwise of fatty necrosis of the growth also depends the stage at which ulceration or the production of carcinomatous cavities is produced. At the same time it must be admitted that all these processes go on side by side, and it is by the predominance of any one of them that we are enabled to make use of the following arbitrary classification.

A. *Carcinoma of the Vaginal Cervix.*

1. *Papilliferous Form.*—Here a sessile protuberant growth projects from one or both lips of the cervix into the cavity of the vagina. The specimen I show you here more closely resembles one of those beautiful villous tumours of the bladder than anything else. This, however, is exceptional. The surface of the growth is usually concealed by a yellow sloughy mass, bathed in a pool of muco-pus.

2. *Infiltrating Form.*—Here the cervix is enlarged and becomes a cartilaginously hard, shapeless mass, with usually a certain amount of superficial ulceration of the overlying mucous membrane. On section, it is seen to be occupied by an opaque white growth.

3. *Ulcerative Form.*—Here the disease may show itself either as (*a*) a shallow ulcer tending to spread outwards on to the vaginal vault, with little infiltration of the underlying tissue; or (*b*) a crateriform cavity with hard everted edges occupying the former position of the cervix, the vaginal portion of which may have completely disappeared.

Methods of Spread.

Carcinoma of the exposed portion of the cervix tends to spread downwards into the vagina, and outwards into the lowest portion of the parametrium. Although it

may occasionally extend upwards along the cervical canal, it hardly ever progresses beyond the internal os, so that the body of the uterus escapes, except perhaps in the very late stages of the disease. The papilliferous type extends outwards over the surface of the vaginal fornices, and may occasionally give rise to a small metastatic deposit in the lowest portion of the anterior vaginal wall. It is this variety also that occasionally gives rise to that curious condition known as "contact cancer"—that is to say, a growth arises in the vaginal wall at a point where the primary carcinoma directly impinges upon it, and appears to have no direct connexion, even by lines of infected lymphatics, with the original focus.

The infiltrating form gradually extends outwards to the periphery of the cervix, invades the posterior portions of the lateral parametrium, and then has two lines of lymphatic extension open to it:

(*a*) Directly outwards to the lateral pelvic wall with infection of the lymph glands in this region.

(*b*) Downwards into the subcutaneous tissue of the vagina, where, for a time, it remains covered with intact mucous membrane. The bladder and rectum are involved later by direct extension, but metastatic growths in the viscera are almost unknown.

B. *Carcinoma of the Supravaginal Cervix.*

The disease here begins in the mucous membrane lining the cervical canal, and the smooth walls of the latter are rapidly converted into a rough, nodular, and easily bleeding surface. The muscular tissue of the cervix becomes replaced by a mass of growth which soon undergoes necrosis. Degeneration begins, either on the free surface, and is then shown as a gradual deepening process of ulceration, or centrally, when the abscess thus formed soon bursts into the cervical canal. In either case the enlarged and massive cervix is replaced by a suppurating cavity with thin infiltrated walls.

Methods of Spread.

Upward extension into the body of the uterus is here frequent, whilst direct passage downwards through the external os to the vagina is almost unknown. The internal os seems to be no bar to the extension of the disease, and the carcinomatous process sometimes appears to glide upwards in the mucous membrane, until in some cases the whole of the lining membrane of the body of the uterus has apparently taken on malignant characters.

The periphery of the cervix reached, the growth spreads rapidly outwards and downwards in the lymphatics of the parametrium, and infection of the internal iliac glands ensues at an earlier period than is the case when the disease attacks the vaginal cervix. The base of the bladder is invaded early by direct extension, whilst rectal involvement only occurs in the terminal stages.

DIFFICULTIES IN EARLY DIAGNOSIS.

1. *Those due to the Character of the Disease.*—In its early stages carcinoma is a painless disease. When the cervix is the organ attacked, the patient will receive little or no warning of its presence, until ulceration is well established and infection of the growth with pyogenic organisms has occurred. Until this fact has been thoroughly inculcated into the lay mind, no early cases of cancer will come to the surgeon for treatment, except those in which the disease is accidentally discovered during a medical examination for some other, perhaps trivial, complaint. A patient with a carcinoma of the breast will first come for treatment months after she has discovered the existence of a hard lump, and yet has not realized the seriousness of her condition because she has suffered no inconvenience or pain. If this is the case when cancer attacks an organ so closely under the patient's own observation as the breast, it is not surprising that we find the disease in a more advanced stage in the case of growths of the uterus.

2. *Those due to the Patient.*—Even when the danger signals of bleeding and discharge clearly warn the patient that something is wrong, it is almost inconceivable how she will temporize and delay consulting her medical attendant, whilst precious weeks and even months are allowed to go by. Again, slight irregular vaginal haemorrhages and discharges are so common during her menstrual life, especially towards its close, that a woman is often disposed to regard them as of trivial importance only. So, indeed, they may be, but the doctor is the only safe judge of this. Many women are ashamed or are afraid of the discomfort and pain of the dreaded examination, and will leave no stone unturned, and regard no pretext or excuse too trivial, to avoid it. Others, again, perhaps already suspect the nature of their trouble, and dread the confirmation of their fears and the strong recommendation for surgical interference which must necessarily follow. The ideal thing would be to examine, as a matter of routine, all patients complaining of gynaecological symptoms; but this, at the present day, I know to be an impracticable suggestion to the general practitioner. There are, however, three symptoms which, if not exactly pathognomonic of carcinoma, are at least strongly suggestive of its presence. In a case in which one or more of these symptoms are present a complete examination must be insisted upon, and no excuse regarded as sufficient even to delay or postpone it. When a patient complaining of these symptoms consults me, it is my practice to assume that malignant disease is present, until, by a complete examination, utilizing every known means at my disposal (including microscopic examination of a portion of the tissue if necessary), it is possible to satisfy myself that such is not the case.

Symptoms Indicative of Carcinoma of the Cervix.

(*a*) The first and most important of these is bleeding on coitus. If this is present in a marked degree it is practically diagnostic of carcinoma. No other disease, with the possible exception of a large erosion or a mucous polypus, will give this symptom, and they only rarely; when it occurs, it is little more than a slight staining of the mucoid secretion. A word of warning is necessary here. A patient will complain of bleeding, but her natural delicacy of feeling will often cause her to omit to mention exactly when it occurs, and this portion of the history will only be elicited by a leading question. The haemorrhage is caused either by mechanical injury and the breaking off of small pieces of friable growth during the sexual act, or by the rupture of a small vein or artery as the result of the active engorgement of the pelvic vessels which takes place at this time.

(*b*) Metrorrhagia occurring several months after the menopause. After menstruation has ceased, several clear months elapse, and then the patient begins to suffer from irregular haemorrhages. This is strongly indicative of the presence of carcinoma. It is quite a different thing from bleeding taking place actually at the time of the menopause, which is by no means an uncommon occurrence. This also, of course, may be caused by a growth, but in many cases no definite cause can be assigned to it. That it is due to some definite pathological lesion is certain, yet in many cases it is difficult to identify exactly what this is, and, as many of these patients completely recover in a few months and remain well for years afterwards, it is obvious that in their cases it cannot portend anything very serious.

(*c*) A somewhat profuse serous discharge, which is usually blood-stained. This occurs in some early cases of carcinoma of the supravaginal cervix, and as it is unusual in any other condition it may prove a very valuable indication. Students are too much inclined to rely upon the age of the patient and the signs of prolonged septic intoxication as a means of diagnosis. Suffice it to say that carcinoma of the cervix may arise at any period of life between 25 years and extreme old age, and when "cancerous cachexia" is established, the local signs of the disease are only too obvious and the growth far beyond the reach of surgery.

3. *Those due to the Many Different Forms the Disease may Assume.*—The symptoms mentioned above must be regarded as being a mere indication that a given patient may be suffering from cancer. The actual diagnosis can only be made upon the sound basis of physical signs, and to appreciate these a thorough knowledge of the pathological appearances of the disease is essential. If carcinoma attacks the vaginal portion of the cervix the diagnosis is usually not so difficult, because here the growth can actually be seen as well as felt. Both these methods of examination should be employed. Early cases are often best identified by means of a good light and a speculum.

whereas in later cases with extensive subvaginal spread and an intact covering of epithelium the extent of the disease may only be realized by palpation. When, however, it is the supravaginal cervix which is affected, the external os remaining closed, a correct diagnosis can only be arrived at by a combined bimanual and rectal examination, made under an anaesthetic if necessary. In these cases the tissues of the vaginal roof are often tense and resistant, and a bimanual vaginal examination alone is not satisfactory. It is only when the examining finger is passed high up the bowel along the anterior wall of the rectum, and the affected portion of the cervix palpated between this and the opposing hand pressed deeply into the abdomen, that a correct estimation of the actual condition of affairs can be attained. The disease may, of course, have spread downwards and involved the lower portion of the cervix, or the external os may be open. In these circumstances no special difficulties will be encountered. There are two important factors to remember in the diagnosis of this disease.

(1) *The Enlargement of the Cervix.*—The presence of a neoplasm will almost always give rise to some enlargement of a part or the whole of the cervix. This may be evident either as a proliferating growth on the vaginal surface, or as an increase in the actual diameter of the cervix, which may retain, to a certain extent, its natural shape and contour. In the latter case the growth may be limited to one side of the cervix, crowding the cervical canal over to the opposite side, or the change may be a uniform one. The cervix becomes cartilaginously hard, and at the same time gives an impression of solidity which is not found in chronic inflammatory cervicitis. As the growth invades the lymphatic spaces of the parametrium the cervix loses its smooth regularity of outline, and this change will be the better appreciated if the disease is limited to one aspect of the cervix, and the healthy side is available for comparison. A gradual loss of the normal elasticity of the tissues at the side of the uterus is observed as the disease extends; eventually a massive nodularity replaces the thin layer of parametrium, through which, under normal circumstances, the fingers can easily be made to meet on bimanual examination. Inflammatory thickening of this region is not uncommon, and it may be exceedingly difficult to distinguish between these two conditions. The latter is usually recognizable as a flattened fibrous band passing outwards above the roof of the lateral fornix to the pelvic wall. Malignant infiltration gives an impression of greater solidity, with its deepest portion at the side of the cervix gradually fading away as the pelvic wall is approached. When, however, it is remembered that carcinoma may arise in an organ already fixed by inflammatory changes, and that peri-lymphatic fibrosis, to a varying degree, invariably takes place around the advancing columns of cancer cells, it will be appreciated how difficult it may be to give a correct interpretation to the physical signs in a given case. Even with the abdomen open, it may be almost impossible to say how much the changes found are due to inflammatory, how much to cancerous infiltration. Coincident with this lateral spread into the loose pelvic tissues is usually a gradual enlargement and characteristic induration of the vaginal cervix. As the growth approaches the surface the overlying mucous membrane gradually thins and assumes a bluish coloration. It eventually gives way, and an extensive shallow ulcer, with an indurated base, becomes evident.

(2) *Friability and Ulceration.*—By friability is meant a curious brittle and crumbling character of the tissues which ensues as the result of fatty necrosis of the growth. Any roughness of the examining finger or sound will break off small portions of the carcinomatous tissue. This is absolutely diagnostic, as no other disease will give this curious sensation. With this there is usually a certain amount of bleeding, and even somewhat forcible distension of the upper portion of the vagina with a speculum may produce quite an alarming amount of haemorrhage.

When both these factors, induration and friability, are in evidence, a correct opinion will probably soon be arrived at. If, however, only one of them is present, an indurated cervix without loss of its epithelial covering, or a shallow ulcer without an indurated base, the microscope alone can decide. The sharp-cut and somewhat irregular edge, and the indurated bright red or sloughy base, of the typical carcinomatous ulcer of the vaginal cervix forms a distinct and, as a rule, characteristic clinical picture. But an ulcer of the exposed portion of the cervix may prove one of the most difficult of diagnostic problems. Again, a lacerated cervix containing much cicatricial tissue, with everted, red, and easily bleeding mucous membrane and many distended follicles, will often present great difficulty in diagnosis. In some cases a correct opinion will rest entirely on the histological evidence derived from the examination of a wedge of tissue, cut so as to include the growing edge of the lesion.

If, in a patient presenting suspicious symptoms of carcinoma, the lower surface appears healthy and the external os is closed, its interior must be explored. Forcible dilatation of the os by graduated sounds until the finger can be inserted is, perhaps, the most satisfactory method. Much may be learnt by the way the tissues give way before the gradually increasing sizes of dilators. This method, however, is not without its disadvantages, unless the surgeon is prepared to operate without delay if cancer is found. Any mechanical violence of this kind may cause large fissures in the infiltrated cervix and open up the pelvic tissues to pyogenic infection. Thus the technical difficulties of a postponed operation may be increased and the delineation of the actual spread of the growth rendered uncertain.

A safer and almost equally satisfactory method is the insertion of a curette and removal of small portions of tissue for microscopic examination. Here, again, the rough and friable character of the tissue lining either the cervical canal or a carcinomatous cavity communicating with it, and the profuse haemorrhage which follows the removal of the instrument ought to admit of little doubt in the ordinary case.

Operative Treatment.

The operations performed for carcinoma of the cervix must be discussed under the two headings of (*a*) radical, or (*b*) palliative operations.

(*a*) *Radical Operations.*

Even when the abdomen has been opened, the decision as to whether a growth is suitable for removal or not may prove a most difficult question. My own feeling is that, unless an absolutely safe margin of healthy tissue is assured, no cutting operation should be attempted, as such procedures serve no useful purpose. The clearing away of Nature's barrier of conservative fibrosis, and the opening up of tissue already infected with carcinoma tends to hasten the spread of the disease, and to shorten rather than prolong the patient's life.

Cases showing extensive vaginal spread or direct bladder invasion are certainly not suitable. The latter mode of extension is more likely to occur when the disease has begun in the supravaginal cervix, and the heaped-up and oedematous condition of the overlying bladder mucous membrane which results in the earliest stages will be best identified by the use of the cystoscope. The most satisfactory way of examining for extension into the posterior part of the lateral parametrium is by bimanual rectal examination under an anaesthetic. If, at the same time, an assistant pulls the cervix well down into the orifice of the vulva with a volsellum, the earliest change of loss of elasticity will be discovered. At the same time, this test must only be regarded as a measure of the technical difficulties likely to be met with at the operation. A clinically healthy parametrium does not preclude a microscopic invasion of its lymphatics, and, conversely, a previous puerperal parametritis may result in absolute fixation of the uterus.

If, under an anaesthetic, the iliac glands are already palpable, it may be safely assumed that they are markedly enlarged. This is not a point of great practical importance. Glands with no sign of enlargement can be histologically shown to contain carcinoma; whereas, on the other hand, inflammatory masses in this disease are not unusual. In deciding whether a case is suitable for a radical operation or not, every surgeon must be a law unto himself. If he feels that he can cleanly and completely remove the whole of the disease by a procedure of such an extent as will offer the patient a reasonable prospect of recovery, and at the same time allow her later

to take up her position again in the social world, the operation ought to be performed.

Modern vaginal section, which differs from that of ten years ago in that the manipulations are carried out under control of the eye, has an assured position in the surgery of the disease. This operation is being extensively used on the Continent at the present time. Admitting that the removal of the parametrium cannot be so complete, and that the lack of exposure precludes any clearing away of the lymphatic glands on the lateral pelvic wall, still in proper hands it will remain the operation of choice for some cases. In an elderly bronchitic patient, with the disease still clinically confined to the uterine tissue, the shorter time necessary for its performance and the much less shock experienced by the patient are very strong points in its favour. In fat women also this operation presents many advantages. Its ultimate results will not compare very unfavourably with those of the abdominal operation. With these exceptions the abdominal route will, in the great majority of cases, be the operation of choice.

Extent of the Abdominal Operation.

All surgeons will agree that the scope of the operation ought to include the removal of all the uterine tissue, a cuff of the upper third or half of the vagina, and the whole of the parametrial tissue in the broad ligament, and, lower down, at the sides of the cervix. The point under discussion at the present day is how far the operation should further proceed in the cleaning of the lateral pelvic wall and removal of the iliac glands. This certainly prolongs the time of operation considerably, and opens up a dangerous amount of loose tissue to sepsis, which is practically always present. Again, it means that the ureter must be cleaned and isolated for the entire extent of its pelvic course, and although the textbooks show beautiful pictures of it left attached to the peritoneum and intact in its sheath, this is not possible under ordinary circumstances. It has been my practical experience that the close of the operation finds the ureter hanging loose across the pelvis, and that this entails an appreciable risk of post-operative sloughing, and the formation of a ureterovaginal fistula some eight days or more later. Even if this does occur, however, it is not a great price to pay for a complete eradication of carcinoma in this region. In a considerable proportion of these cases the fistula closes of itself and gives rise to no further trouble.

When discussing the pathology of the disease, it was pointed out that glandular infection usually occurred late. Although it is impossible to give accurate figures at the present time, probably in some 80 per cent. of the cases in which the parametrium is clinically free, no microscopic evidence of carcinoma will be found in the iliac glands. Exceptionally large masses of infected iliac and lumbar glands are found where no palpable extension of the disease at the sides of the cervix is appreciable.

Bearing these facts in mind, the rules which I have adopted for my own guidance are as follows:

1. The iliac glands are not removed if, after the abdomen has been opened, they are not found to be enlarged, and the parametrium is clinically healthy.

2. If the patient's general condition is good and the parametrium is clinically infected, whether the iliac glands are enlarged or not, the larger operation is performed.

3. If a large mass of iliac glands is found, the operation is not proceeded with. By this time infection has spread far up the ovarian lymphatics to the lumbar glands, and no operation will cure the patient of her disease.

(Lantern slides were then thrown upon the screen illustrating the different stages of the abdominal operation advocated, and specimens of the disease removed in this way.)

(b) Palliative Operations.

Something can be done, in an advanced case of the fungating type of growth where a large mass fills up the vagina, for a patient suffering from pain, a profuse, purulent vaginal discharge, and haemorrhage. Of the various methods of treatment employed, none are better than a thorough use of the cautery, and the removal of all the exuberant portions of the growth by this means. The diathermic cautery is the best instrument to employ, as the extent of its action is much more under the control of the surgeon than is the case with the actual cautery. The necrosis also, which the former instrument produces, is much less likely to be followed by an intense inflammatory reaction at the periphery of the growth, or by bursts of secondary haemorrhage later as the sloughs separate.

Ligature of arteries is also useful in those cases in which haemorrhage and discharge are the prominent features. If the abdomen has been opened for the exploration of a growth which subsequently proves to be inoperable, it is quite a simple matter to ligature both main internal iliac arteries and one or both groups of ovarian vessels. This will cause a marked improvement in the symptoms for a time, but the results are not sufficiently permanent to justify a laparotomy for this procedure alone.

THE INFLUENCES OF VENEREAL DISEASES.

DELIVERED BEFORE THE LIVERPOOL MEDICAL INSTITUTION, NOVEMBER 20TH, 1913.

BY CHARLES J. MACALISTER, M.D.EDIN., F.R.C.P.LOND.,

HONORARY PHYSICIAN, ROYAL SOUTHERN HOSPITAL, AND TO THE ROYAL LIVERPOOL COUNTRY HOSPITAL FOR CHILDREN, HESWALL, ETC.

AFTER some general observations on the influence of public opinion on morality, Dr. Macalister continued as follows:

The Contagious Diseases Acts, so far as this country is concerned, had their day, and proved to be worse than useless, and it seems likely that other countries, in which the regulative systems originated and have been more deeply rooted, if they have not already abolished them are likely, following the lead of England, to do so in the near future, and that some really effective means of endeavouring to stamp out the trouble will become adopted among the more advanced civilizations. This is the more likely as the importance and far-reaching effects of both diseases are becoming more and more evident. After these Acts were repealed it became clear that some diminution in the amount of venereal diseases took place, at all events, so far as syphilis was concerned. It was difficult to prove this with reference to the general population, but the evidence derived from the army statistics was very definite, because under the Acts special provision was made for the soldier; and it was significant enough that the parliamentary returns showed that when these regulations were rescinded, after a short temporary rise in the figures, there was a progressive decrease from 275 per 1,000 admissions in 1885 to about 19 per 1,000 in 1900. The soldier since those days has been educated and warned concerning the dangers attributable to venereal diseases, as he has been with reference to the evils connected with drink, with the result that he is in every sense a more moral, a more temperate, and a much more respectable member of society now than he was then. With reference to the general population, what can we say? Only this, that whatever improvement took place after the repeal of the Acts—and there probably was a good deal—the amount of syphilis and of its results continues to be simply appalling. In the light of modern knowledge it seems evident that no substantial decrease in the disease is at present occurring, but that it is probable that an alteration has taken place in its type; and, furthermore, it is certain that a growing number of diseases which were not formerly considered to be syphilitic in origin—or, at all events, were only suspected to be so—are now definitely known to be due to that infection. The literature of syphilis and our experiences of it in the hospitals amply testify to the widening of the importance of this disease, and to the serious part which it is playing as a destroyer of the general health of the people, as an enfeebler of domestic health and wealth, leading as it does to chronic invalidism or death of parents when their children are still young, and damaging the childhood of the nation to a degree which is only beginning to be fully recognized. There is no possibility of arriving at accurate figures in this country, owing to the way in which the disease is hedged round, but we can gather some estimate of its extent from figures furnished

in New York in response to a request for a report from the Board of Health of that city for the number of cases treated by each physician during the year 1912. Dr. Hermann M. Biggs (General Medical Officer to the Department of Health of New York), in a paper read before the New York Academy of Medicine on February 20th of this year,[1] stated that down to the time of writing only 1,500 private physicians out of more than 8,000 in the city (cases treated in public hospitals and dispensaries were not included in the statistics), had responded to this request, and they had reported 13,348 cases of syphilis, 24,980 of gonorrhoea, and 4,331 of chancroid, making a total of 42,659 cases, but he says these figures only indicate a small proportion of the cases actually under the care of the physicians of the city during the year, and that it is probable that a large percentage of them were in the active infectious stage. He further says: "I think that 200,000 would be much nearer the real number of cases developing in the city during 1912." Roughly speaking, about 30 per cent. of these would be syphilis, which means that in a year there would be about 60,000 cases of that disease. If in our English towns anything like the same proportion of syphilitics in the acute infectious stages are present in a year—and let it be noted that in the discussion of this subject at the Royal Society of Medicine in 1912[2] it was estimated by Dr. Douglas White that 40,000 new cases of syphilis occur in London every year, and that in the United Kingdom there is an annual incidence of about 130,000 such cases—if, I say, there is this large number of new cases in a year, it may well be imagined that there must be a far larger proportion of cases representing the other stages of the disease, notwithstanding the fact that a considerable number of the infected get treated more or less efficiently. Unfortunately we have plenty of evidence of this in the systemic and organic diseases of known syphilitic origin which are so frequently under our care, and now, following the work of Schaudinn (who in 1905 identified the *Spirochaeta pallida*), Wassermann, Noguchi,[3] and a number of clinical workers, who have made systematic observations by means of the Wassermann reaction, proofs are forthcoming that there are occult forms of syphilis, that the results of the infection are far more widespread than was imagined, and that a considerable number of diseases which were not previously known to be associated with syphilis, are undoubtedly due to it. Take mental defectives and epileptics, for instance, a class of cases which constitute the very foundations for the arguments which the eugenists use for impressing their views about proper mating. The percentages of these cases, which from clinical data were definitely attributable to syphilis before the days of the Wassermann reaction, varied from 1 to 17 per cent. A paper on the "Rôle of Syphilis in Mental Deficiency and Epilepsy"[4] in the current number of the *Journal of Mental Science* contains interesting information concerning this matter, and the conclusions of the writers are that in over 50 per cent. of their cases of mental deficiency syphilis was shown to be a causative factor, and that it is "the main causative factor in the production of that type of epilepsy which manifests itself at early ages." It is further noted by these writers that an investigation of the families of defective children in whom the reaction had proved to be negative showed "that syphilis is associated with a still higher percentage of cases than is ascertained by the examination of the patients alone," and that of all the cases of mental defect and epilepsy giving a positive reaction a very small percentage presented "external evidence of congenital syphilis, even where the family history and the examination of other members of the family afford practically conclusive evidence of the existence of syphilitic infection."

These facts concerning the relationships between mental defect and syphilis only serve to confirm the findings of many other observers previously working on similar lines—for instance, Mott, who has written extensively on the subject, H. R. Dean,[5] Muir, Browning, and Mackenzie,[6] etc.; and there are a number of data which indicate that other types of disease have the same origin—congenital heart disease, for instance (Ferguson Watson); a number of gynaecological conditions to the causation of which no suspicion of syphilis was formerly attributed (Louise McIlroy, H. Ferguson Watson, and J. Hamilton McIlroy.[7] Reuben[8] has pointed out the high percentage of diplegias which present positive Wassermann reactions, and similar results have been obtained by J. Leslie Gordon[9] in a number of the plegic types of paralysis. Quite recently Dr. Frederick Wilson, at my suggestion, examined half a dozen pulmonary cases the pathogeny of which was doubtful at the Royal Liverpool Country Hospital for Children at Heswall, and obtained positive results in two of them, a fact which may possibly help, if substantiated by further observations now being prosecuted, to differentiate a type presenting fairly definite clinical characteristics, from fibroid bronchiectasis and from tubercle. Finally comes the work of Noguchi,[10] demonstrating the presence of the parasite in the brains of patients suffering from general paralysis, which I suppose accounts for more deaths in asylums than any other single class of disease. It seems quite probable that the pathology of a number of other diseases will be cleared up in this way, and that the statement of Andral,[11] quoted by Lancereaux in his treatise on syphilis, "La syphilis devrait servir de clef a toute la pathologie," was nearer the truth than we imagined.

If these facts are true of syphilis, which has always been regarded as a serious and transmissible disease, difficult to cure, and apt to be followed by organic maladies in the person who acquires it, what of gonorrhoea, which not long ago was regarded as a simple trouble, easily got rid of, spoken of in a light-hearted manner by sufferer and doctor alike, and considered well so soon as its external manifestations had disappeared? What kinds of facts have been unearthed concerning its effects upon family life and family health? When I was a student, Professor Chiene at his clinics year after year preached the doctrine that gonorrhoea was not a simple disease. He taught the importance of treating it seriously and of curing it absolutely, owing especially to its tendency to cause urethral stricture. It was the future of the person who had acquired it that was mainly referred to in those days. I remember so well how he used to point to the texts and mottoes which at that time adorned the walls of the wards, and say, "Gentlemen, if I had my way, in place of these mottoes I would have written up, 'Gonorrhoea is not a simple disease,' 'Once a stricture always a stricture,' and other maxims to the same effect."

Lessons of this kind, you will observe, stuck in the memory of the student, and they were to some extent prophetic, insomuch that the disease has turned out to be anything but simple and benign in its remote effects, whatever may be said of its more immediate ones. The writings on the wall might now be well extended to include results to other people as well as to the primary sufferers. Since the discovery of the gonococcus by Neisser (1879), the importance of gonorrhoea has become established; its tendency to lurk unseen and unregarded in the prostate, remaining latent there, it may be, for prolonged periods, even for years, to be transmitted later on to wife and through her to the child, has placed an entirely new complexion on its seriousness. Indeed it constitutes one of the greatest dangers to which womanhood is subjected when her marriage takes place. It is unnecessary to dilate upon the resultant troubles which so frequently necessitate removal of the ovaries and other operative measures, or which involve chronic ill-health of some kind to the woman and it may be blindness in the child; all of these are well enough known.

As a profession, what are we to do with reference to this disease and to syphilis? Are we to continue to regard the *Spirochaeta pallida* and the gonococcus as being favoured among organisms, as sacred germs which are to be spoken of with bated breath, the probability of their existence being almost apologetically inquired into lest we hurt the susceptibilities of their hosts? Are we to guard them in their strongholds from the public knowledge and from the knowledge of those who innocently become infected by them, and go on concealing their identity? Surely the time has come for plainness of speech and for using the power which we possess to influence public opinion and to sensitize the public conscience concerning a matter which is of the greatest moment to the domestic health and happiness and to the natino generally. Endless measures have been taken to stay the progress of tuberculosis in this country, and large sums

are levied in taxes to ameliorate it, as well as other infectious and contagious diseases, which are isolated and treated at great expense to the people. The protection of child life and the provision of maternity benefits are other measures which have economic purposes, and yet these venereal scourges are allowed to go on crippling the workers by producing all kinds of secondary and tertiary diseases, not only in those who primarily acquire them, but in their wives and children and their children's children. Syphilis causes the death of unnumbered children both before and after birth. Our lunatic asylums, institutions for defective children, epileptic establishments, homes for incurables, parochial and general hospitals, children's and special hospitals, all contain numbers of people suffering from the results of syphilitic infections, not to speak of the private asylums and retreats and the cases under the care of private practitioners. The country is teeming with diseased people, suffering from the consequences of these scourges, many of whom have to be maintained at the public expense or at the expense of the charitable, and we as a profession must surely raise our voices and try to find a means for staying them. Syphilis has an enormous bearing upon the eugenics question. It is, in my opinion, the greatest of the factors which bring about mental and other serious defects in children, and I am certain that any rational scheme of eugenics must not only take into account the prevention of the marriage of defectives, but must mainly involve a striking at the root of the whole matter by tackling the syphilis question. This duty should not be undertaken by any small coterie of men banded together as a society, but by the whole medical profession, which, if it would seriously undertake it and lend the weight of its influence in educating the people, could do much to stamp out the disease and its results.

Addison says, "Half the misery of human life might be extinguished would men alleviate the general curse they lie under by mutual offices of compassion, benevolence, and humanity," and I do not think we could apply this wise principle in a better cause than by undertaking a professional crusade against these infections.

Diseases which are brought about by the protozoal parasites are often detrimental to human interests in as much that they interfere with trade and commerce, which cannot be carried out successfully unless the workers are protected so far as their healths and lives are concerned. A high sick-rate or a high mortality at once cripples industry, and this, added to humanitarian motives, accounts for the energy with which our merchants and our Governments have supported the schools of tropical medicine, and have provided funds for many expeditions to investigate such diseases as malaria and sleeping sickness, and yellow fever. Malaria has been diminished by attacking the breeding grounds of the mosquitos which carry it; so have yellow fever and other diseases. In connexion with sleeping sickness I note that it has recently been proposed that an attack should be made upon the wild animals which harbour the trypanosome, and from which the tsetse fly conveys it to man.

These are examples of the ways in which the roots of the troubles have been or may be attacked, in the one case by destroying the carriers, and in the other by slaughtering the primary hosts. I am afraid that neither of these means would be available in the case of the spirochaete, although, seeing that many advanced eugenists advocate a lethal chamber for the defectives, I fail to see why they should not equally start at the beginning, and at all events suggest segregation of the original hosts or carriers. The argument is just as sound in the one case as in the other, and if it could be carried out thoroughly would no doubt be highly successful and morally beneficial. The point I want to make is that there is just as much reason why the community and the State should attack this parasitical protozoon, the spirochaete, which is doing so much damage to us in this country, as there is for their taking steps to eradicate those species of protozoal organisms which cause other diseases in other countries; more so, indeed, because its transmission involves injury to the healths of succeeding generations. The question is one of economics as well as of humanity. There is a parallelism between the two cases, and we shall have to endeavour to organize some scheme for dealing with this parasite, just as schemes have been successfully inaugurated and carried out for dealing with those which cause the tropical diseases. There is not the slightest use in thinking about preventive legislation on the lines of the Contagious Diseases Acts or any modification of them. It is beyond dispute that, added to the immorality of the recognition of prostitution by any State—a policy which would lower the tone of the country, and is in other countries one of the greatest promoters of the white slave traffic of which we hear so much—such methods are useless and eminently harmful. In the light of present knowledge common sense shows that they would mean nothing more nor less than the legal maintenance of a series of cultures of the organisms of both types of disease. It is impossible to clear the gonococcus from a prostitute by a few weeks of treatment, or to rid her of infective syphilis in the course of months. Even if this could be done it would be only rational to segregate her for observation every day that she plys her vocation. If the Contagious Diseases Acts were of the slightest utility it would be only reasonable to apply them to all carriers and hosts, male and female alike. Altogether the system is absolutely unsound, and had better be left alone.

What about notification? I am afraid that great difficulties surround this proposition, although I am open to the conviction that they might be overcome. Direct notification might in some cases lead to concealment of the diseases, although if it were understood that secrecy would be maintained on the part of the health authorities, provided no breach of the law was committed, a good deal of the objection would be removed, and such a measure would certainly have an inhibitive effect upon the infected, to whatever class they might belong. If the objections to such a scheme are insurmountable, it is possible that some form of anonymous reporting and registration of the cases might be devised, and that through the medical practitioner in attendance the patient might be instructed by the health authorities as to the contagious nature of his or her disease, and warned concerning the penalties, as in the former plan. The cases would, of course, have to be certified as being free from contagion when they became cured. It would have to be enacted in any scheme of notification that the treatment of these contagious diseases is not to be undertaken by unqualified persons.

My belief is that the main way in which the root of the trouble should be attacked is, in the first instance, through society itself by means of education, and through plain speaking on the part of the medical profession. The necessity for some form of notification, and for penalties to those who break the law, by infecting or risking the infection of others, will thus become evident to the public, and public opinion being influenced and ripened, protection will be demanded. There is no use in trusting to moral training or to appeals to honour alone in this matter. These measures have certainly accomplished much in the past, and are still doing a great deal of good, but they only appeal to the best types of mind, and in spite of them the diseases go on and on.

I am convinced that in the long run nothing short of firm measures undertaken by the State for the inhibition of the infected will be of the slightest practical avail. It is a duty required of the State for the protection and general welfare of society, for the protection of child life, for the diminution of the vast numbers of the crippled and defective and lunatic, for the safeguarding of the health of the workers, and for the preservation of domestic health and happiness, that these diseases should be seriously taken in hand and their propagators inhibited, and if necessary penalized.

With this ultimate object in view, let us teach the people the nature of these infections—how the organisms of syphilis invade the whole body and cannot always be eradicated. Teach them also the dangers to be associated with the gonococcus, and make them responsible for their acts if they transmit the diseases caused by either of these organisms to other people. Get society to understand what the prevalence of these infectious cases means in the way of necessitating the maintenance by the public of expensive institutions for the retention and treatment of crippled brains and nervous systems, and all the other degenerative and diseased conditions which result from them. Let us break a gap in the hedge of secrecy which surrounds the whole question and be done with the

toleration of conditions which, as some author has put it, cause almost as much venereal disease within the bonds of matrimony as exists outside them—a statement which is probably true if the remote effects of the diseases are taken into account.

Think of the inconsistence of our laws which enable the working man or woman to get compensation for a trivial and temporary injury from an employer, who is as often as not only technically responsible for it; or which do not allow one with impunity to resent the impudence of a schoolboy by whipping him, and yet permits a person to marry who may by so doing damage another so seriously as to bring about lifelong suffering or mutilation, or even death, and perhaps produce a degenerative or defective progeny. Think of the criminality of this, with no law to prevent it, or to punish it! The crime, if the perpetrator has a knowledge of the danger, is almost comparable with that of the poisoner who, in cold-blooded secrecy, under the guise of friendship and affection, by his action leads to the disease or death of his victim. The thing is monstrous, and we as a profession should surely take the initiative in the way of making recommendations for educating every class concerning these diseases and their results, and by insisting upon the principle that freedom from transmissible disease should be a legal condition for marriage. Therein will lie the basis of true eugenics, and if this knowledge is ground into the people, and understood by them, the day may come, and come shortly, when public opinion will, for the protection of the innocent, and for the carrying out of eugenic principles, not only tolerate, but welcome, the requirement by law of certificates of health, indicating that "no just impediment" exists before matrimony is entered into. Then it will happen that if a person marries, knowingly having any of these impediments, and brings about any of the disastrous results which I have referred to, there will be no excuse for the remorse which he or she must suffer in consequence of having disregarded or evaded measures the purports of which were both plain and just.

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THE WORK OF THE CAMBRIDGE RESEARCH HOSPITAL.

By T. S. P. STRANGEWAYS, M.A., M.R.C.S.,

LECTURER ON SPECIAL PATHOLOGY IN THE UNIVERSITY OF CAMBRIDGE; DIRECTOR OF THE CAMBRIDGE RESEARCH HOSPITAL.

THE Cambridge Research Hospital for the study of chronic diseases was opened in 1906 in a small private house where the work was carried on for some time. As the research progressed it became evident that the hospital would become a permanent institution, and, owing to the inconvenience of the house and its distance from suitable laboratories, it was decided to build the present hospital; this was opened in May, 1912. The total cost of the hospital was £2,752. This sum includes the freehold site, research laboratories, fitting up of hospital and laboratories, an electric installation, petrol gas plant, motor house, sinking of well, laying out garden and drainage system.

The Research Hospital since its commencement has received the most cordial support of the medical profession, and the list of annual subscriptions shows a large proportion (60 per cent.) of medical men among the subscribers. Not only have they helped financially, but have most willingly given assistance in the research by recording cases and allowing free access to their patients in order that observations may be made on their condition. Several thousand patients have thus been examined, and various observations recorded.

Since the hospital has been opened the following medical graduates have assisted in the research: C. Ackerman, H. Ackroyd, F. J. Allen, L. Baly, L. Bonnerjee, J. Barnes Burt, F. P. Franklin-Evans, M. P. Fitzgerald, F. Gayner, P. Hall-Smith, J. Lambert, J. Lindsay, E. McCall, W. J. Mallory, J. R. Marrack, E. H. Morris, G. W. Nicholson, W. M. Penny, C. Ponder, T. S. P. Strangeways. A. W. Wakefield, and R. I. Whiteman.

The literature in connexion with arthritic disease is enormous; this has been carefully read and abstracted, and the following paper has been published in the *Bulletin* of the Committee for Special Diseases. The other references in this paper are to this *Bulletin* unless otherwise stated:

A Résumé of Some of the More Important Literature on the Etiology and Symptoms of Rheumatoid Arthritis. (Vol. i, No. 1, p. 4.)

The disease has also been studied from the historical point of view, and through the kindness of the Egyptian Government a number of valuable specimens of diseased joints showing arthritis in Egyptians from the third dynasty onwards has been received; these have been studied, and the following reports have been made on them:

Report on the Pathological Changes found in the Bones of Ancient Egyptians.

Report on the Second Consignment of Ancient Egyptian Bones.

Systematic clinical observations are being made on the following points in connexion with arthritic disease:

1. *An Inquiry into the Etiology, Family History, and History of Onset in Cases of Arthritis.*—The following reports have been published:

A Report on Some Points in the Etiology and Onset of 200 Cases of Rheumatoid Arthritis. (Vol. i, No. 4, p. 55.)

A Report on Some Points in the Etiology and Onset of 195 Cases of Rheumatoid Arthritis. (Vol. ii, No. 3, p. 83.)

An Inquiry into Some Points in the Family and Clinical History of 125 Cases of Gout. (Vol. ii, No. 3, p. 95.)

2. *The Clinical Examination of Arthritic Patients.*—This forms an important part of the work. Several thousand patients have been examined, and these clinical observations combined with pathological studies have thrown much light on the disease. A report on this subject will appear later. The following report has been issued:

The Arterial Blood Pressures in Arthritic Disease. (Vol. ii, No. 2, p. 11.)

3. *A Series of Observations on the Symptoms and Physical Signs present in Arthritic Patients.*—These observations are of great interest, and explain much, but they also show that the most careful clinical examination unchecked by prolonged study of joints in the *post-mortem* room will in some cases result in misleading or absolutely fallacious conclusions. Publication of the studies has been intentionally delayed, but the following reports have appeared:

Observations on the Temperature and Pulse-rate in 95 Cases of Rheumatoid Arthritis. (Vol. iii, No. 3, p. 75.)

Examination of the Urine in 90 Cases of Rheumatoid Arthritis in Women. (Vol. iii, No. 4, p. 97.)

The Incidence of a History of Vaginal Discharge in 115 Cases of Rheumatoid Arthritis in Women. (Vol. iii, No. 4, p. 92.)

4. *The Prognosis in Cases of Arthritis*—This is being studied by keeping in touch with patients over long periods. The studies show that the progress of the disease is spontaneously arrested in a large number of cases, and that although this event may be long delayed, it may be hoped for even in the most progressive form of the disease. It does not follow, however, that when the arthritis is arrested the patients' deformity will become less or that the use of their limbs will return. On the other hand, both the deformity and the crippling may increase, although the morbid processes in the joints have ceased to progress. This is explained by the fact that limitation of movement or disuse of the joint has led to the formation of habits of indolence, distaste for movement, and loss of power from disuse, so that unless the patients are aroused in some way to re-educate their muscles the condition of crippling may persist; if, however, for any reason they begin to use the

joints even slightly improvement may be expected to take place, and it is really wonderful what a degree of strength and utility can be restored to a completely disorganized and dislocated joint. This explains at least some of the good results claimed for various forms of treatment. The patient, owing to the hopeful interest taken in his joints by his medical or other attendant, begins to take a hopeful view of them himself, and to endeavour to use them himself, with the result that greater strength and freer movements are obtained; this is followed by still greater efforts, and therefore greater improvement. There seems to be a strong mental factor in a large number of chronic cases, and given a keen medical attendant with a firm belief in his "cure" he will obtain improvement in some cases that have failed to respond to other methods of treatment or to the same method in less keen hands.

5. *Observations on the Results Obtained by Different Forms of Treatment.*—Various remedies have been put forward from time to time either as specific cures or means for the alleviation of the various forms of the disease. Among the forms of treatment that have been studied at the Research Hospital or elsewhere the following are included:

By *drugs:* for example—Guaiacol carbonate, sodium salicylate, aspirin, arsenic, potassium iodide, etc.
By *external application:* Blistering, ointments, liniments, poultices, essential oils, mud (fango).
By *electricity:* Cataphoresis, vibration, galvanic current.
By *injections:* Vaccines, anti-serums, horse serum, fibrolysin, etc.
By *appliances:* Splints, bandages, extension, etc.
By *waters:* Bath, Buxton, Harrogate, Strathpeffer, Wiesbaden, Carlsbad, etc.
By *radiant heat.*
By *massage.*
By *radium.*
By *patent medicines.*
By *passive congestion.*
By *removal of septic foci.*
By *removal of fluid from joints.*
By *operative measures.*

The following papers have been published:

The Treatment of Rheumatoid Arthritis by Bier's Method of Passive Congestion. (Vol. i, No. 5, p. 79.)
The Relation of Infective Foci to Rheumatoid Arthritis. (Vol. ii, No. 3, p. 106.)

It will be noticed that although many observations have been made on the treatment of the disease, little has been published. The reason for this is that our observations do not entirely agree with the claims put forward in their favour by many authorities, but we are anxious not to throw doubt on their efficiency except on absolutely sure grounds.

The facts referred to under prognosis must be emphasized with regard to treatment. It is to be regretted that in connexion with every new form of treatment that comes up, premature reports, claiming good results in the treatment of arthritis and other chronic diseases, should be issued. These reports are often based on the treatment of a few cases, and make little or no reference to failures and no allowance for the likely response of a chronic invalid to a "new thing."

Our studies show definitely that the treatment of arthritis should be based on a knowledge of what has occurred and what is occurring in the affected joint, and each joint should be examined and treated from this standpoint. In this way only can rational treatment be carried out. The general condition of the patient must, of course, be studied at the same time, but the routine exhibition of drugs and use of other remedies—chemical, thermal, physical, etc.—is to be deprecated. The changes in the joints must be recognized from previous dissection and study of *post-mortem* specimens similarly affected; and with the knowledge thus gained the various changes must be dealt with.

With regard to the more purely scientific side of our researches, work is being carried on along the following lines.

6. *The Diagnosis of Various Forms of Arthritis.*—This study was undertaken in order if possible to arrive at some conclusion as to the cause of various forms of arthritis, and much time has been spent in testing the value of certain methods of diagnosis, for example, the examination of serum. Several of these in our hands have proved valueless, but studies along these lines are still being carried on. The following reports have been published:

The Ophthalmic Reaction. Some observations on 10,000 collected cases. (Vol. ii, No. 4, p. 117.)
The Conjunctival Reaction to Tuberculin in Arthritic Diseases. (Vol. ii, No. 4, p. 125.)
An Inquiry into the Value of the Opsonic Index. (Vol. i, No. 8, p. 115.)

7. *A Study of the X-Ray Changes found in Arthritic Joints.*—An exhaustive research has been carried out, with the result that it is now possible for us to recognize many changes in the diseased joints of the living patient with great accuracy. *X*-ray photographs were taken of diseased joints obtained from the *post-mortem* room; the joints were then dissected with the photograph before the observer. The photographs were then compared with photographs of arthritic joints taken from a large number of patients. The following reports on this research have been published:

A Study of Joints from Rheumatoid Arthritis and Chronic Gout by means of Skiagrams, and Dissection of the Affected Parts. (Vol. i, No. 6, p. 87.)
A Study of Joints from Cases of Rheumatoid Arthritis and Chronic Gout by means of Skiagrams, and Dissection of the Affected Parts. (Vol. iii, No. 5, p. 103.)
A Study of Skiagrams of the Hands of 100 Cases of so-called Rheumatoid Arthritis and Chronic Gout. (Vol. i, No. 9, p. 145.)
A Study of Skiagrams from 18 Cases of Rheumatoid Arthritis and 3 of Chronic Gout on which the Purin Metabolism has been Studied. (Vol. iii, No. 2, p. 67.)

8. *Research in the Post-mortem Room.*—This has been actively carried on and examination of over 2,000 joints has been made. These studies have led to most important conclusions and thrown new light on the subject. A museum showing the changes which occur in morbid joints has been arranged, and the specimens form a collection which is absolutely unique; practically every change which is known to occur in arthritic joints is illustrated, and many changes that have not been previously observed are shown. Some of the specimens were shown at the meeting of the British Medical Association in Birmingham in 1911.

9. *A Study of the Morbid Anatomy of the Joints and Organs from Cases of Arthritis.*—This is a natural sequence to the study of cases in the *post-mortem* room; a more thorough examination can be made by dissection of the preserved specimens in the laboratory. A full report is being prepared on this side of our work. This will show that the present description of the morbid anatomy of the disease needs revision.

10. *A Study of the Histological Changes found in Rheumatoid Arthritis.*—A study of the microscopic changes seen in the tissues of diseased joints and also of the organs from arthritic cases is being made. The following reports have been issued:

The Morbid Histology of Some Cases of Rheumatoid Arthritis. (Vol. i, No. 7, p. 103.)
A Report of the Science Committee of the British Medical Association on the Histological Changes found in Chronic Arthritis.

11. *Studies of the Spinal Cord in Arthritis.*—Much stress has been laid by various observers on changes reported in the spinal cord in arthritic diseases, and important conclusions were drawn from these reports. A microscopic study of spinal cord from arthritic diseases has been made, and the following paper is in the press:

The Spinal Cord and Posterior Ganglia in Rheumatoid Arthritis. (Vol. iv, No. 4.)

12. *A Study of Hypertrophic Pulmonary Osteo-arthropathy.*—A study of a case of this rare and interesting condition has been made, and a report published:

Report on a Case of Hypertrophic Pulmonary Osteo-arthropathy. (Vol. ii, No. 5, p. 131.)

13. *Bacteriological Investigations.*—These have been made on the blood, the joint fluids, and various secretions. In the majority of cases these examinations have been found negative, probably because the methods at present available are not suitable. From a certain number of cases, however, organisms have been isolated which may or may not have been the cause of the arthritis. Owing to this uncertainty it would be most unwise to publish details of these experiments before sufficient evidence has been obtained

to show whether these organisms are or are not related to the disease. The following report has been published:

Report on the Clinical and Bacteriological Examination of the Vagina in 60 Cases of Rheumatoid Arthritis. (Vol. iii, No. 4, p. 83.)

14. *Chemical Research.*—An important and tedious research is being carried out in the Research Hospital on the metabolism of arthritic patients. These studies are most exacting to the observer, to the nurses, and to the patients, and could not be possibly carried out without the aid of such an institution. The following reports have been published:

Observations on the Purin Metabolism. (Vol. ii, No. 6, p. 146.)
Observations on the Uric Acid Excretions in One Normal Person and in 4 Cases of Rheumatoid Arthritis. (Vol. iii, No. 2, p. 87.)
Observations on the Uric Acid Excretion in Gout and Rheumatoid Arthritis. (Vol. iii, No. 2, p. 17.)
Observations on the Calcium Metabolism and Uric Acid Excretion in Rheumatoid Arthritis. (Vol. iv, No. 3, p. 33. In the press.)

15. *The Effect of Climate and Soil on Disease Generally, and So-called Rheumatoid Arthritis Particularly.*—It is believed by the medical profession and the public that residence in certain districts is harmful to those suffering from certain diseases; while there is some evidence that this is true, it is by no means sure, and it is important that the question should be settled if possible; for, by the advice of their doctor, patients are constantly removing from one locality to another reputedly more suitable for their condition, at great personal loss and hardship to their family. In connexion with our studies a geographical survey has been organized, in order, if possible, to determine the relationship, if any, of climate, geological formation, vegetation, and allied factors to certain diseases.

The study includes the following factors:

(*a*) Geographical situation.
(*b*) Geological formation; for example, limestone, clay, sand and soil generally.
(*c*) Vegetation; for example, trees—pine, oak, elm—thickly or sparsely wooded; cultivation, pasture, crops, moorland.
(*d*) Altitude.
(*e*) Rainfall.
(*f*) Sunshine.
(*g*) Temperature.
(*h*) Wind.
(*i*) Water supply—hard, soft.
(*j*) Situation; for example, mountain, fen, moorland, sea coast, inland.

Another line of research which the above studies have shown to be urgently needed and which at present our funds will not allow us to undertake is operative treatment of arthritic joints. In many patients the changes in the joints can only be remedied by operation, and there is great probability that the pain which is present in many cases of arthritis, and for which no treatment is of any avail, might be entirely removed by operation. For these and other reasons it has been decided to build an operating theatre as soon as funds can be obtained. This urgently needed line of work will be begun the moment the theatre is built.

The following table gives details of our annual expenditure since the opening of the hospital.

	Hospital.	Research.	Bulletin, etc.	Total.	Annual Subscriptions.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1906 ...	336 16 8	189 16 2	14 2 6	540 15 4	—
1907 ...	256 2 8	158 5 10	91 11 3	506 0 2	—
1908 ...	177 4 11	141 18 2	23 2 9	510 12 7	—
1909 ...	192 8 6	197 10 7	106 7 0	496 16 1	192 19 0
1910 ...	250 10 10	173 6 0	19 3 2	526 0 0	206 16 6
1911 ...	102 12 9	82 2 7	61 18 6	246 13 10	192 18 0
1912 ...	395 14 1	134 14 4	29 19 0	560 7 5	212 0 3

It will be seen that the annual expenditure averages £500 yearly, a small sum compared with the sums spent by many other research committees, especially if we take into consideration the additional expense involved by the up-keep of the hospital and nursing staff, and the feeding and treatment of patients. Our income from annual subscriptions averages £200 yearly.

Medical men are beginning to make special journeys to Cambridge in order to see the hospital and something of our work and methods. I extend a cordial invitation to any medical man who is interested in the subject to come and see the hospital, and will do my best to make his visit pleasant and interesting. I should, however, be glad if any intending visitor would make an appointment before coming to the hospital.

THE SIGNIFICANCE OF PHLEBOLITHS.

BY

J. HALL-EDWARDS, L.R.C.P., F.R.S.EDIN.,

SENIOR MEDICAL OFFICER IN CHARGE OF THE X-RAY DEPARTMENT, GENERAL HOSPITAL, BIRMINGHAM.

SOME few months back I was asked by an insurance company to make an *x*-ray examination of the kidneys, ureters, and bladder of a gentleman who had applied to them for a policy upon his life.

It transpired that in the course of an examination undertaken by the medical referee to the insurance company the patient had stated that two or three years previously he had had an attack of abdominal pain which lasted for several hours. In his description of the attack he related all the classical symptoms usually attributed to the passage of a calculus from the kidney to the bladder, but as far as he was aware no stone had passed through the urethra, and since the attack he had enjoyed perfect health and had experienced no further trouble.

The patient, a well-built man, without an ounce of superfluous fat, had at my instructions been prepared for the examination by the taking of an aperient on the night previous, and the administration of an enema on the morning of the examination. The radiographs were excellent, and on careful examination there was no shadow to indicate the presence of a calculus. The radiograph of the pelvis showed a line of phleboliths in the usual position, namely, half an inch above the upper edge of the pubis on the left side. It was in the left flank that the patient experienced the afore-mentioned attack of pain. On the right side, in a corresponding position, there were two small and similar shadows.

I was asked by the insurance company to furnish them with a report as to the man's fitness. This I avoided, but I furnished them with a copy of the radiograph together with a description of it, and suggested that they should send it to their medical referee, who was a specialist in diseases of the urinary tract. Whether or not the life was accepted as a first-class one I do not know, but the case deeply interested and impressed me, and was the indirect cause of my writing this article.

During the last ten years I have radiographed hundreds of cases in which the presence of calculi was suspected, and, whilst in many instances no stone has been found, in a large number phleboliths were clearly defined in the pelvis, and were always most numerous on the side in which the patient complained of pain or discomfort.

I have recently been greatly impressed by the large number of cases which have been sent to me, in which all the classical symptoms of stone were present yet in which no shadow was found, with the exception of phleboliths. In some of these cases the phlebolith shadows were only found on the side in which pain had been experienced, and in all cases where phleboliths were present they were always more abundant on the affected side than upon the opposite one.

I may say that all the cases I refer to were specially sent for examination as having symptoms which at least pointed to the possibility of a calculus, and that in my experience of these cases, both in hospital and private practice, lasting over a period of six years, the percentage of stones found varies between 17 and 20.

In *Quain's Dictionary of Medicine*, 1885 edition, the following sentence occurs: "Phleboliths are harmless, and they require no treatment." Whether this be true or no I am not in a position to say, but there cannot be the slightest doubt that phleboliths are of far greater significance than is usually admitted.

What are phleboliths? Makins in *Heath's Dictionary of Practical Surgery* says:

A phlebolith is a calcareous concretion developed within a vein. Phleboliths are the result of calcareous degeneration of laminated thrombi; they are met with chiefly in the veins of the lower extremity and pelvis, most commonly lying loose in ampullae, behind the valves. They are usually rounded or oval in shape, and are constituted of phosphate of lime, with 20 per cent. of protein matter, and a little sulphate of lime and potash. (Frankland.)

During the last eighteen years I have taken, or superintended the taking of, over 20,000 radiographs, and so far have failed to obtain the image of a phlebolith outside the pelvic area; whilst in a number of instances I have detected the presence of calcareous deposits in the walls of the arteries in all parts of the body.

Phleboliths are rarely seen in patients under 40 years of age, but above that age they are said to be fairly common. Hurry Fenwick examined 30 bodies by means of the *x* rays in the *post-mortem* room, and found phleboliths in seven instances, four being males and three females. The ages of the patients varied between 43 and 47 years. The phleboliths were all found in the plexus of veins running along the side walls of the bladder, uterus, or rectum. None of these phlebolithic patients had had any signs of calculus during their lifetime. He does not state, however, whether they were picked at random, or whether there were any signs of renal disease. He says:

Phlebolithic markings in the pelvic area are of frequent occurrence in cases with renal pain. There does not seem to be any correspondence between systemic disease, unless it be atheroma, and phlebolithic change; but there is no doubt in my mind that the varied inflammatory processes incidental to disease of the sexual organs in both sexes influence very materially the production of phlebolithic concretions.

In order to ascertain what amount of significance is given to the presence of phleboliths, I interviewed the pathologist of a large general hospital, who informed me that although he had performed over a thousand *post-mortem* examinations, his attention had so far never been drawn to their presence. I next talked the matter over with Professor Peter Thompson, who holds the Chair of Anatomy at the University of Birmingham. He was much interested in the subject, and promised to ask his students to look out for phleboliths in the dissecting-room. Within a week, he telephoned to me that they had been found in one of his subjects. On my visiting the dissecting-room I was shown the bladder and sexual organs of a man, aged 60, in which numerous phleboliths were present; these were chiefly found on the side walls of the bladder, and were much more numerous on the right side than on the left. There could also be felt numerous concretions in the seminal vesicles. I borrowed the specimen and submitted it to an *x*-ray examination. In the resulting radiograph all the concretions which could be felt were visible; the images of the phleboliths, however, were much more strongly marked and clearly defined than those of the concretions in the seminal vesicles. In the case of the latter I doubt whether a visible image would have been obtained in a radiograph taken under ordinary conditions through the living body.

In all cases in which phlebolithic images are found it must be assumed that a phlebitis has been present at some period of the patient's life, and that a dilated condition of the veins still exists. The significance of their presence, therefore, must vary inversely with the patient's age. In young subjects (under 40 years of age) their presence indicates early degenerative changes of a degree of importance nearly approaching that ascribed to the presence of atheroma.

There is plenty of evidence to prove that phleboliths do not exist in perfectly healthy and normal individuals—at any rate, until advanced age is reached—whilst there is little or no proof that they are the natural result of senility.

Granting that the latter assumption were proved, the early appearance of phleboliths should be of as great significance as if (as I venture to think) they are direct evidence of existing or pre-existing disease.

I submit this short and imperfect article simply in the spirit of inquiry, in the hope that others with greater experience may give us their views upon an interesting subject.

APPENDICECTOMY IN GENERAL PRACTICE.

BY

H. STUART ELWORTHY, F.R.C.S.ENG.,

EBBW VALE.

IN the JOURNAL for November 15th Dr. Robert Hutchison, in a letter headed "The Craze for Appendicectomy," asks for the testimony of the family doctor as to the condition of patients after the surgeon has done with them. To that request the following account of my own experiences in this connexion is a reply.

I have been in general practice in a small way for over seventeen years, yet can give little information owing to the small number of patients of mine that have required operation. Hospital surgeons are called in when the *family* doctor believes operation is necessary (and sometimes when he is not)—that is to say, in the worst cases; but they are hardly ever called in to see cases that do perfectly well without their assistance. Hence there is a considerable class of cases of appendicitis which they never see, and as to the treatment of which they have no experience. This leads them, I think, to take an erroneous view of the disease as a whole, for they seem to imagine that appendicitis is of necessity a very fatal disease unless the appendix is immediately removed. In my limited experience this is not in accord with the facts, and I am entirely unconvinced that operation is necessary in every case.

I will dismiss at once the comparatively large number of patients who come to the doctor and "think they have appendicitis," but merely have some pain and tenderness in the region of the appendix, which clears up in about ten days or a fortnight with medicine appropriate to the individual. I dismiss them because such cases do not amount to appendicitis. There is no rise of temperature, no enlargement of the appendix, no quickening of the pulse; and when they have recovered one does not hear anything more about their appendices.

In regard to cases of true appendicitis, I deal first with those in my practice which have required operation:

CASE I.

While in practice in North London for eight years I had only one case. The patient was a middle-aged lady, who had been treated by another practitioner for "gastric influenza." There was a large mass of plastic peritonitis around the appendix, and this suppurated. She was sent to hospital and an operation was performed. She recovered, but was not free from abdominal discomfort when I left London, and I do not know her after-history.

CASE II.

A young man said he had had influenza, and that for a week he had had pain in the abdomen. The appendix—not adherent—was enlarged, about the size of an elongated filbert. There was pain also in the epigastrium on pressure. Three days later the pulse was 92, temperature 98.4°. There was no pain on walking, but the abdomen was still tender, and there was some spasm of the muscles on pressure. Four days later he had severe pain in the night. Pulse 100, weak, and not quite regular; temperature 98.4°. The appendix was very tender, and the size of my thumb. He was sent to hospital and had it removed, after it had been found that it could be emptied by massage, but it filled up again. He is now (four years after) quite well.

CASE III.

This was a small boy, who got a tender enlarged appendix. I have not the notes now, but being satisfied that operation was required, I sent him to hospital and had the appendix removed. He is now (after over seven years) quite well.

CASE IV.

This was a boy who got measles, followed by bronchopneumonia and pleurisy. He began to complain of pain in the right iliac fossa, where some indefinite swelling was felt. The pulse was 100, respirations 44, temperature 100.2°. He had vomited. The symptoms gradually subsided, and the pulse was 80, and temperature 99°. Still a smouldering appendicitis was suspected, and a tender fluctuating swelling like an abscess was felt per rectum. The appendix was removed the next day. It appeared normal to the naked eye, and just above it was a small abscess containing from 1 to 2 drachms of pus. A week later he passed a shower of small uric acid calculi, some blood, albumin, and granular casts. I do not know whether the abscess was due to the appendix or to the right ureter. He made an uninterrupted recovery, and is now quite well, three years after.

CASE V.

This was a dustman of middle age who had previously been attended for appendicitis by another doctor. The abdomen was held tense, and was tender at McBurney's point; no dullness and no mass were found about the appendix; pulse 56,

temperature 98.2.° I sent him to bed. Three days later the appendix was still tender; pulse 52, temperature 98.2°. The tenderness continued for some time, but in a week he was fairly convalescent, and at the end of a month he could bend about freely any way and no mass could be felt. The next month I treated him for herpes zona, from which he recovered, and he then reverted to his contract practice doctor. A few months later I was informed that he had gone to London, had his appendix removed, and died there.

This last is the only case in which I have been concerned in which death resulted from appendicitis, and the other four are the only cases in which I can remember advising prompt operation.

Now let us look at the other side of the picture, the class of case that operating surgeons do not see—those not requiring operation:

CASE I.

A young collier had severe appendicitis, and his doctor advised no operation. A doctor in charge of a hospital had seen him and advised immediate operation. I was asked to decide between them, but not to meet them. He had noticed pain in the abdomen for three days, getting worse, and had vomited and was constipated; pulse 108, temperature 103°. Tongue fairly clean and moist; abdomen retracted, but moving with respiration. Very tender in the right iliac fossa over the appendix, and some spasm present; nothing felt above or below the appendix; no tenderness per rectum. I considered he had severe but not fulminating appendicitis; that there was no necessity for immediate operation, as he seemed to be just getting over the worst of it.

I saw him again two days after; his pulse was then 70, temperature 100°, tongue furred, but moist. The pain was less, but the abdomen was tender as before, but no mass was felt. No operation was advised, and he recovered. This was five years ago, and about a month ago I inquired about him, and was informed that he is doing his usual work as a collier.

CASE II.

This was a man who had had a previous attack, with suppuration, and had had the abdomen opened, but the appendix not removed. He fell down, and two days after got pain in the abdomen. Pulse 62, respirations 26, temperature 98.2°. An ill-defined mass, like intestines matted together, was felt in the right iliac fossa. Nothing on the left side and nothing per rectum. Later in the evening the pulse was 104, temperature 101.6°, and the swelling was larger and softer, but did not extend up to the liver. It was very tender. The next day the pulse was 86, temperature 99.2°. The swelling gradually melted away and he recovered.

This was nearly six years ago; he left Ebbw Vale about a year after, and I do not know his after-history, but expect I should have heard if he had died.

CASE III.

A man, who had been treated by another practitioner as "gastric influenza." He had had griping pains about the umbilicus for some days, on and off, and had vomited a little. Pulse 104, respirations 24, temperature 103°. Tongue furred. A tender mass like matted intestine was felt on the right side up to the level of the umbilicus. Some muscular resistance was present, and nothing was felt per rectum. The mass gradually cleared up under medical treatment, and a week later the appendix could be felt as a hard mass. It was less tender, and gradually got smaller, and now cannot be felt. He has quite recovered. This case occurred five and a half years ago.

CASE IV.

This patient was a woman who had not been well for a fortnight; pains in the right iliac region, nausea, chilliness, and a little vomiting. Pulse 80, temperature 98.4°. Tongue coated; tenderness in the right iliac fossa. No definite mass was found, but something which seemed appendix, the size of a thumb, was felt. It was free, and on pressing on it pain was felt above the umbilicus.

Next day the pulse was 116, temperature 100.4°. The bowels were open and the pain less. The appendix was enlarged and tender; no mass was felt around it. The prognosis seemed uncertain, but on the following day the temperature was 99.6°, and she rapidly recovered. This was eighteen months ago, and she is still quite well.

CASE V.

This patient, a woman, had pain in the epigastrium and abdomen at night. She had been told by one London doctor that she had appendicitis, and by another that her condition was due to floating kidney. Pulse 88, temperature 99°. Tenderness and spasm over the appendix and caecum. A mass like hard faeces was felt in the caecum. The appendix was not felt. Neither appendicitis nor floating kidney was found. A purge and hyoscyamus was given.

Next day an ill-defined mass was felt in the situation of the ascending colon; no appendix. The following day there was spasm and tenderness over the appendix, which could not be felt. I suspected a growth and considered the appendix trouble did not amount to appendicitis.

She went to London and was operated on. A small tumour in connexion with the right ovary was removed, and as the appendix was "not normal" it also was removed, but no appendicitis was found. Perhaps this case should not have been included. She is now—ten months after—quite well.

CASE VI.

This was an elderly woman seen in a large provincial city. Her family doctor had diagnosed appendicitis, then an eminent consulting physician was called in, who stated that the condition was "cancer." I agreed with the family doctor, and found a tender enlarged appendix and indefinite adhesions, but no cancer. We treated her for appendicitis medically, and she made a slow but uninterrupted recovery. She never had any more trouble with it, and died from pneumonia some three years later.

CASE VII.

This patient was myself. Two years ago I got chilled after scrambling about in a most uncomfortable coal level where one could not stand upright, and sweating profusely. It was a simple catarrhal attack, and the diagnosis was confirmed by two medical men. Of course I was advised to have the appendix removed, but, on finding that it could be emptied by manipulation, and as there was no suppuration, I left it

After a week or ten days in bed and then a fortnight's holiday, I returned to work and have continued at it ever since. I refrained from tennis and cycling for a year, and for months there were twinges of pain when there was any flatulence or constipation. This any one would expect when adhesions are dragged, but they gradually became less and less, and now I am practically, but not absolutely, free from them. They merely amount to a trivial discomfort now and then. As far as I can judge, the appendix may last me for another twenty years, and in the meantime one has a very good chance of dying from something else.

The treatment followed in the above cases was on these lines:—

For bad cases: Confinement to bed, salol three or more times a day to disinfect the bowel, fomentations and hyoscyamus to relieve pain. Where there is a localized inflammatory mass I leave the bowels alone, and do not try to move them before the end of a week. If they do not act spontaneously, they can be stimulated gently by repeated small doses of sulphur and belladonna; enemata by the rectum. Practically no food, neither milk or slops should be given until the bowels have moved.

Water or barley water, together with a biscuit or bit of toast are enough; when the bowel is free the patient can have something to eat.

For the mild cases, and those who "think" they have it, the treatment is naturally varied. If there is nothing beyond pain and tenderness, some iodide and liq. hydrarg. perchlor. 10 minims in decoction of sarsaparilla co. will generally clear up the cases. Salol is useful in all cases. Where there is chronic dyspepsia, some mixture such as gent. c. rheo. with nux vomica and valerian, or possibly euonymin or pepsin will suit, and the caecum and sacculi of the colon can be emptied by nightly doses of confection of senna, and flatulence treated by asafoetida pills when required.

In gouty cases, colchicum and potassium citrate or lithia and plenty of water to drink will do. In one case in which the iodide and mercury mixture did not improve matters, colchicum and potassium citrate cleared it up in two or three days. That was five years ago, and there has been no recurrence.

Though faecal concretions are supposed to be responsible for some cases of appendicitis, they are not uncommonly found in healthy people. In making *post-mortem* examinations on men who have died from accidents I have found 2 in about 20 cases. In neither was there any history of pain or inconvenience.

If such concretions block up the opening of the appendix and this becomes distended, I think they can be dislodged by gentle massage upwards and to the left; the appendix seems to empty itself, and symptoms are relieved at once, but I cannot be sure whether the result is due to a shifting of a concretion or of wind.

My conclusion from a small experience is that something like half the real cases of appendicitis require operation and the other half do not.

UNDER the will of the late Mr. Thomas Ford, a former Mayor of Tiverton, the infirmary in that town receives a bequest of £1,000.

THE seventh International Congress of Medico-Electrology and Radiology will be held in Lyons in July (27th to 31st), 1914. The City of Lyons has given its support to the Organizing Committee, which has as honorary presidents MM. d'Arsonval, Bouchard, and A. Tripier, and as President Professor Renaut. The general secretary, to whom all communications relative to the Congress should be addressed, is Professor Cluzet, 282, Avenue de Saxe, Lyons.

INTESTINAL OBSTRUCTION DUE TO A COIL OF WORMS.

BY D. HADDEN VICKERY, SURGEON, R.N. (RESERVE),
CHERITON FITZPAINE, DEVON.

HAVING read with much interest Mr. Edward Deanesly's interesting paper on intestinal obstruction, in the JOURNAL of November 29th, I should like to record a case which occurred in my practice some twelve months ago.

I was called one morning to see a young married woman who had been taken ill the previous day. The local nurse told me that the patient was taken ill suddenly with severe abdominal pain and vomiting. I was at once struck by the distressed aspect she presented, an aspect commonly seen in abdominal cases. The pulse was quiet and the temperature normal. On exposing the abdomen I found she was in the sixth month of pregnancy and abnormally distended. I made a vaginal examination, but found no sign that labour had set in. I then examined the abdomen carefully, and was satisfied that there was abnormal distension. The vomit was bile-stained, and later became very unpleasant, bordering on faecal. I decided to give an enema, partly for diagnostic purposes. It was very carefully given, the patient lying with the head low; some three and a half pints were injected slowly, but with no result.

When I called again in the evening I found no change. I gave another enema containing turpentine, but there was again no result—not even flatus being passed. The vomiting was still continuous. I gave orders to allow the patient tepid water; this acted as a natural lavage, for next morning the vomiting was not so frequent. The nurse now showed me a large round worm which had been vomited just previous to my coming. It occurred to me that possibly I had to do with some obstruction caused by worms. So I gave santonin gr. 5 in castor oil. Much to my surprise this was well retained. Later, during a severe bout of vomiting, a large mass was ejected from the stomach, which on examination proved to be a coil of some twelve large worms. The vomiting ceased, and the patient's aspect altered very markedly. In the course of a few hours she complained of severe pains, which were reflected to the back. This led me to make another vaginal examination, and this time I found the os partly dilated and labour progressing. In due time she was delivered of a six months fetus, dead (breech presentation). The bowels soon after moved naturally, and she made a good recovery.

In this case the abdominal signs were masked by the pregnant uterus, which made diagnosis difficult, but taking the usual signs and symptoms in order we can see to what extent they helped. The pain was due no doubt to the colic of peristalsis, intermittent and general over the abdomen. Distension was difficult to determine, but the patient complained of it, and it was certainly noticeable in the upper abdomen. Muscular rigidity was not noticed, owing to the pregnant uterus. The pulse-rate, normal at first, later rose to 100. The temperature was normal. Vomiting was very persistent, any food taken being rejected at once. Constipation was absolute.

The diagnosis seemed to lie between constipation and intestinal obstruction. The three signs—pain, vomiting, and absolute constipation—seemed to point to the latter. Distension, a valuable sign, was in this case of little aid.

The interesting points in this case were: The difficulty of making an accurate diagnosis, the unusual cause, and the unusual termination.

The *Ascaris lumbricoides* is credited with extraordinary migrations. Gould and Pyle, in their *Anomalies and Curiosities of Medicine*, quote instances of round worms piercing the intestine, being found in the bladder and urine, as escaping through the umbilicus, as present in the biliary passages and in the middle ear. Morland mentions exit through the mouth. Holt, in his *Diseases of Childhood*, says, "When very numerous they coil up and form large masses, which may cause intestinal obstruction," but such cases must be very rare.

Another point of interest is the action of santonin. It is said, as well as acting on the worms, to cause convulsive movements in the intestine. As there was in this case some severe peristalsis, we can see how the drug helped. Whitla, in his *Materia Medica*, says Chéron lauded the drug in dysmenorrhoea; whether it acted as an emmenagogue one would not care to say, but labour set in in this case. I cannot quite agree that intestinal obstruction is of necessity always a case for the surgeon. In my particular case an operation would have been badly borne, owing to the pregnancy. Recently I had the pleasure of hearing Mr. Crisp English speak at the Devon and Exeter Hospital on abdominal pain, and I was greatly struck by his appreciation of the physician in abdominal diagnosis and treatment. Though not in the smallest degree minimizing the importance of the surgeon or physician in consultative work, I feel sure many will agree with me when I say the ideal consultant at first would be an experienced general practitioner, and that it should be left to him to determine whether the case was for one specialist or another. The surgeon's advice often is to operate early. The physician says, "Wait and see." What is required is a mean between the two. In conclusion, I may say I have seen two cases of intestinal obstruction in connexion with pregnancy, but the case here described must be rare, hence my apology for entering into so many details.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NYSTAGMUS.

DR. WILSON'S statement in the JOURNAL of November 22nd, that the movements of the eyes in his two cases of miner's nystagmus were concomitant, induced me to verify his observations.

Last week I examined 26 cases of miner's nystagmus in various stages, and found that nystagmus was present, or easily produced, in 13. In all of these 13 the movements were concomitant. I found Dr. Wilson's suggestion for the use of prisms most useful.

It is interesting to note further that one man was unaware of the movements of his eyes; he had no other signs or symptoms of the affection, but was doing full work at the coal face. At some future date he will probably be told by a junior house-surgeon that he has miner's nystagmus, and will claim compensation, obtaining a list of typical symptoms from his friends.

Leicester. CUTHBERT C. BINNS, M.B.

THE INDUCTION OF ARTIFICIAL PNEUMOTHORAX.

THE OPERATION FOR INDUCING ARTIFICIAL PNEUMOTHORAX.

WE read with great interest Dr. H. de C. Woodcock's paper on this subject in your issue of October 25th, on pages 1055 and 1056, and beg to offer the following comments on his paper:

1. The list of great Continental authorities on artificial pneumothorax is hardly adequate; it should include, amongst others, Kornmann, von Müralt, and Egbert Morland, all of whom advocate the puncture method, and have devised their own modifications of apparatus for that purpose.

2. It is important to emphasize the value of taking an *x*-ray negative and examining the chest on the fluorescent screen before proceeding to the actual filling.

3. As regards the preparation of the skin, we consider it sufficient to paint it with iodine, and we omit shaving, scrubbing with an antiseptic, and washing with saline, and so far we have had no evidence of sepsis to induce us to adopt a more complicated and, we think, unnecessary procedure.

4. The site of operation is all-important; it is essential, in order to avoid multiple punctures or failure to convert the potential pleural space into an actual one, that the needle should be entered at a spot where the clinical indications and *x*-ray findings suggest freedom from pleural adhesions. Hence it is best to puncture over supposedly healthy lung if possible. The actual site varies in each patient.

5. We consider that a local anaesthetic is unnecessary, as any shock that occurs probably originates from the nerves in the parietal or possibly also in the visceral pleura, and Dr. Woodcock apparently does not attempt to anaesthetize these. If it should be necessary to make multiple punctures on account of pleural adhesions preventing the needle from entering the pleural cavity, the additional time spent in securing local anaesthesia adds considerably to the length of the procedure for a very hypothetical benefit.

6. We recommend the needles originated by Professor Saugman, which are only 5 cm. long, and can be guarded to within any desired distance from their point by a movable stop. We usually fix the stop at a distance of 2½ cm. from the point, and increase that distance if

necessary. The needle has a short point, and we enter it with a sudden stab, which is practically painless, and a stilette ensures the patency of the needle as occasion demands.

7. The regular oscillations of the manometer synchronous with the patient's breathing show that the needle-point has entered the pleural space. If the needle is not in the pleural space the manometer does not then show regular oscillations, and the needle should be withdrawn gradually or entered more deeply until the manometer works satisfactorily. In some cases, owing to local obliteration of the pleural space by adhesions, it may be necessary to make a fresh puncture. The manometer is an infallible guide to the position of the needle, and we consider Dr. Woodcock's hypodermic syringe test to be superfluous.

8. At the first filling it is best to aim at an end-pressure of zero, and this end-pressure should be quite irrespective of the quantity of gas introduced. At the first filling we usually start with oxygen, and after about 200 c.cm. have been injected without any unfavourable effects we continue with nitrogen at once—a procedure made easy by using Kornmann's combined oxygen and nitrogen apparatus. At subsequent refillings nitrogen only is employed.

9. The end-pressure at the refillings should not exceed *plus* 4 or *plus* 6 in the average case. This figure has been shown to give the best results by several advocates of this method of treatment; but it, again, does not bear any constant relation to the total quantity of gas introduced.

10. As an immediate result we notice, in addition to the patient becoming slightly blue and perspiring somewhat, that the pulse and respiration-rate are quickened to a varying extent, and that there may be for a time some shortness of breath or palpitation, which may be due to the extra work thrown on the heart and the other lung, or possibly to a nervous factor, or to both. If unfavourable symptoms develop, such as severe dyspnœa with cyanosis, the best treatment would appear to be radical—that is to say, to remove the cause by removing some of the gas; but this we have not as yet had occasion to do. The use of strychnine does not appeal to us in this connexion.

11. The patient should be kept in bed for at least three days after the first filling, and preferably for a very considerably extended time.

Dr. Woodcock says that he finds a difficulty in deciding whether artificial pneumothorax or thoracoplasty should be the operation of election. Such a dilemma should be of very rare occurrence. Thoracoplasty is surely to be considered *le dernier ressort*, an operation only to be employed in otherwise hopeless cases—cases with extensive or universal adhesions and cases with large cavities—in the former because an artificial pneumothorax can by no means be produced; in the latter because, owing to the rapid diffusion of gas through the walls of the cavity, the pressure necessary for the success of the operation cannot be maintained.

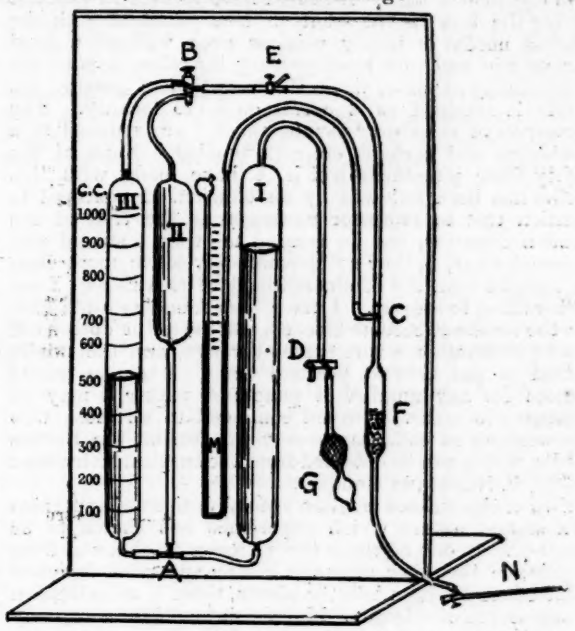
Thoracoplasty does not induce the same degree of pulmonary rest in the diseased lung as an artificial pneumothorax, and is therefore far less potent to limit autoinoculation and reduce temperature—two of the main objects of the operation. There is, too, an undesirable degree of finality about the operation of thoracoplasty. Once it is performed there is no going back—a serious matter should the opposite lung become extensively involved. If circumstances demand, by discontinuing the after-fillings in a pneumothorax case we may allow the compressed lung to expand again.

We cannot agree with Dr. Woodcock's statement that the operation of thoracoplasty, in the hands of an expert, can be done with lightning rapidity under local anæsthesia. The local infiltration of the tissues takes a long time when several ribs are to be resected—a period fraught with no small amount of anguish to a debilitated patient. The actual resection is horribly painful. Dr. Woodcock discusses the precautions to be observed in order to eliminate shock in making the puncture for an artificial pneumothorax. Has he calculated the shock effects in thoracoplasty?

The suffering to the patient in the operation for artificial pneumothorax is practically *nil*, and the element of shock extremely small. Can any man hesitate to say which is the operation of election if the choice lies in his hands?

The Apparatus.

A few words in conclusion with regard to apparatus. There is no doubt as to the great convenience of being able to introduce oxygen and nitrogen in rapid succession at the first filling. The only apparatus which renders such a step possible, and even easy, is the latest apparatus of Kornmann, illustrated in the drawing:



I, II, and III, three glass cylinders, such that the capacity of I is equal to the sum of the capacities of II and III.

II is the smallest, and holds when full 300 c.cm. of oxygen gas. III is larger, and holds 1,000 c.cm. of nitrogen.

The cylinders contain solution of perchloride of mercury. When II and III are filled with their respective gases the solution is displaced into the large cylinder I. At the operation the gases are displaced by driving the solution from I into II or III respectively with the aid of small rubber bellows, G.

By suitable manipulations of the taps A, B, and D the oxygen first and then the nitrogen can be driven through the delivery tube and needle. At C is a three-way tap which connects up at will the delivery tube either with the manometer or with the gas cylinders. The gas, before reaching the needle, passes through a cotton-wool filter, F.

The tap E is a three-way tap with one limb at right angles to the plane of the picture, and is used for filling the apparatus with gas. The supply of gas is stored in small metal compressed-gas cylinders. The whole apparatus is mounted on a board about 1 ft. broad and 2 ft. high. It is easily portable and quite easy to manipulate. The manufacturers are A. G. Hausmann, Hecht Apotheke, St. Gallen, Switzerland.

HUGH H. CARLETON.
D. GORDON EVANS.

Queen Alexandra Sanatorium,
Davos Platz.

THE TECHNIQUE OF ARTIFICIAL PNEUMOTHORAX.

IN the JOURNAL of October 25th there are communications regarding the treatment of unilateral phthisis by means of induction of an artificial pneumothorax (or collapse therapy, to write it shorter), and it occurs to me that a note on the technique might not be out of place here.

It was my good fortune to begin to practise this method after having seen and profited by the experience of its pioneers. The exhaustive researches of Brauer and Lucius Spengler have made it possible for their followers to dispense with the open method by showing the all-important nature of the manometer reading, and a large proportion of those who began with this method now use exclusively the Saugman needle. This is already a great simplification; but Brauns of Hanover has gone one step further and has introduced the use of a small platinum needle a little larger than an ordinary hypodermic, with which the puncture is reduced to its least formidable dimensions. The tube fits over the brass collar of the needle. Brauns published his method in the *Zeitschrift für Tuberkulose*, 1910, xv, 425, and was kind enough to demonstrate it to me in detail a year ago. He pointed out the great advantage of using a needle which can be sterilized in the flame immediately before use and is consequently dry without the trouble involved in dry-

sterilizing the larger steel needles. He assured me that the smaller the needle the less likely it is to punch out a circle of skin, as Forlanini already had discovered; and that it is therefore the exception for it to become blocked. He also emphasized the fact that a small needle without stilette is much less likely to irritate the pleura and to give rise to exudation. All this I have verified in practice during the last twelve months. The puncture with the Brauns needle is nearly painless even without a local anaesthetic, and with a preliminary injection of novocain is absolutely painless, while the sensation of passing the pleura is retained as a useful guide to locality. The symptoms of so-called "pleural shock" are reduced to a minimum, and perhaps entirely avoided. None of the eighty-three punctures which I have made with this needle has been followed by an effusion. I ventured to mention this to Professor Saugman at the time of the London Congress, but he assured me that I should still see exudations, as they not uncommonly set in more than six months from the commencement of treatment. I am still waiting to see one. I have also found it quite rare for the needle to become blocked, and even if it does so it can be withdrawn, a wire passed through, and the needle flamed in the briefest possible time. A single needle suffices for any number of punctures which it may be necessary to make. I would commend to all those who are working at collapse therapy the use of the Brauns needle, which can be obtained from the surgical instrument maker, C. Nicolai, in Hanover.

Two of the writers mention special designs of apparatus of a simple nature which experience has shown to be practical. In one of these the nitrogen is obtained from the air; in the other, although it is an apparatus designed to introduce nitrogen into the pleura, there is no indication of any source of nitrogen. May I point out how extremely convenient in practice is the use of small steel so-called Gnom cylinders containing oxygen or nitrogen, weighing only 26 oz. apiece? These are so light that they can conveniently form a component part of the apparatus and hold enough gas for thirty or more punctures. Oxygen can be used to start with—an additional safeguard to the patient, as there is no record of fatal oxygen embolism; a change made to nitrogen; several successive inflations carried out—all with the mere turn of two or three taps. The apparatus which I use is supplied by the instrument maker, Hausmann, of St. Gallen; the gas bottles and manometer fasten on to the front of a vertical board, while the cylinders are screwed on to the back. The whole is made to pack into a box 25 by 15 by 7½ in., which can safely be carried from place to place with no risk of fluid spilling, and is ready to use when taken from the box. The apparatus is perhaps a little more costly than those mentioned, but it is so convenient and simple to work that I have several times used it single-handed without any risk to the patient. It is, after all, the convenience and safety of the patient which should chiefly determine the form of the apparatus.

Arosa. EGBERT MORLAND.

Acute Phthisis Treated by Pneumothorax.

Except in advertisements of patent medicines, one does not often come across a case of a patient almost moribund from acute phthisis being restored in a few months to full working capacity. Such a case it has, however, been my lot to witness this year, the restorative agent being compression of the diseased lung by artificial pneumothorax. The patient, a young man of 22, was treated in the sanatorium for early phthisis four years ago; he learnt gardening, and kept well while he led an open air life. Eventually better pay lured him back to a lawyer's office, and he quickly went wrong again.

When readmitted just after Christmas, 1912, he was acutely ill, and his progress downhill was alarmingly rapid. The lesion was one-sided, and we at once thought of artificial pneumothorax; but while the question was being debated he got so much worse that we decided it was useless to try anything, and merely hoped to get him home alive. On the day settled for his return home he was too far gone to risk sending him even a short journey by motor. He was exhausted by constant diarrhoea, with a temperature ranging from 96° to 104°; he had a feeble, intermittent pulse, and the emaciation such that only the most anxious care and a water bed kept bedsores at bay. We decided the chance to get him home had passed and he must die here. A week later, as he was still alive, the idea of pneumothorax again came up—it could but do good; he was too apathetic to care himself, but consented to anything. The pleural space was discovered without difficulty and 300 c.cm. of nitrogen introduced. After the operation there was a short period in which we thought shock would prove fatal, but with a hypodermic of strychnine he rallied. After the first day no difficulties were encountered in administering the nitrogen. Complete compression was obtained in about three weeks, and by that time the temperature was falling, and a definite improvement had set in. Diarrhoea stopped, cough lessened, and the sharp outline of the bones became a cause of a little less anxiety to the nurses. At Easter, at his earnest request, he was taken in a bath chair to the short sanatorium service, but was unequal to it and fainted. This, however, was his last "symptom"; from that day he has steadily recovered, and on September 1st took a post as clerk at full working hours, which he still holds. The refills of nitrogen have been kept up regularly. Fluid has been effused, but without apparent disadvantage of any sort.

This case is the only brilliant success out of nine cases treated, but three others have been distinctly improved. In two others a very partial pneumothorax was unavailing to stop the downward progress, and in three cases no compression could be got by reason of pleural adhesions. No accident has occurred in the series, which has involved over 100 operations.

ESTHER CARLING, M.D.,
Medical Superintendent, Maitland Sanatorium, Peppard Common, Oxon.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

CHURCH MISSIONARY SOCIETY HOSPITAL, TORO, UGANDA.

AN UNUSUAL CASE OF TROPICAL LIVER ABSCESS.

(By ASHTON BOND, M.D., D.T.M.)

The patient, a native of Toro, was a well-developed man, about 30 years of age, and seemed in good general health. He gave a history of irregular fever and a general feeling of tiredness and being out of sorts for a few weeks previously, and also complained of some pain in right side and in the epigastrium.

On admission his temperature was 101.4°, the pulse was 80. The tongue was furred and dry, and the eyes looked heavy and dull, but there was no jaundice. He said he had not had any rigors, and that he did not perspire. The heart and lungs were normal, the spleen slightly enlarged. There was slight enlargement of the liver to the right; in the epigastrium was a definite swelling which was tense but not painful, and only slightly tender. The swelling was well defined, and filled up the greater part of the epigastrium. Fluctuation was doubtful, but an exploring needle being inserted into the swelling, unmistakable liver pus was obtained. The patient was told his condition required an operation, and to this he agreed.

Chloroform was administered, and an incision about 3 in. long made over the most prominent part of the tumour. On cutting through the abdominal wall and opening into the abscess it was found that there were well-formed adhesions, shutting off the abdominal cavity from the abscess. There was a large quantity of pus; about 10 oz. were removed, and the cavity was then explored with the finger. It was about the size of a large orange, and extended upwards and to the left. After syringing out the cavity a drainage tube was sewn in and part of the wound sutured. Antiseptic dressings were applied.

There was a considerable discharge of pus for a few days, after which the drainage tube was removed and a small one put in. The wound rapidly healed, and three weeks after the operation the patient was able to get about. He was discharged a week later, quite well and having no pain or tenderness in the epigastrium.

This case seems to me to be of interest on account of the unusual position of the abscess, and also because it is, I believe, quite uncommon to find liver abscesses in natives of tropical Africa; in about twelve years' hospital and dispensary work this is the only case I have come across.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 3rd, Dr. W. RUSSELL presiding, Dr. CLAUDE B. KER, opening a discussion on *Isolation and quarantine periods in infectious diseases*, said it was time for the profession to revise some of the old standards. A change in the present regulations of public authorities and schools, which were admittedly irksome and expensive, could only be produced by a change of medical opinion. In scarlet fever the traditional period of detention was eight weeks, but at Southampton and Leicester a minimum detention of four weeks had been in operation for some years, cases being sent out without any regard to desquamation, and this had not resulted in any increase of infections; indeed, at Southampton, with this procedure and with a total of 581 cases in three years, there had not been a single "return" case. His own experience was that the cases requiring longest detention gave the highest percentage of "return" cases. He would suggest a minimum detention of five to six weeks, a neglect of desquamation, and a quarantine period of seven instead of the usual ten days. In diphtheria the problem was simplified by our power to detect the cause of the disease. Detention should be limited by the obtaining of two consecutive negative swabs from the throat, and the duration of quarantine of contacts should be governed by the same test. In measles detention ought to be determined by the disappearance of catarrh, and, subject to that condition, might be stated as fourteen days, and after the disappearance of the rash. In the first part of the period of quarantine (say, eight days) contacts might attend school and then be isolated from the ninth to the fifteenth day, provided one was sure of their first exposure to infection. In German measles the speaker kept his cases ten days after the rash was over, though infectivity probably ceased with its disappearance. There was no reason why children should not attend school during the first ten days of quarantine. In whooping-cough long experience had convinced him that with a fully developed "whoop," say, seven days after its appearance, infectivity ceased. This was also the opinion of Henoch, Czerny, and other authorities. The traditional detention of six weeks after the "whoop" might thus be very greatly reduced. In chicken-pox the crusts carried the infection, and he advised a detention of about three weeks. The first ten days of quarantine might be utilized for school attendance, and isolation then enforced until the twenty-first day. In mumps the usual detention was about three weeks, or two weeks after disappearance of visible swelling to cover the complications of orchitis and pancreatitis. In the quarantine period isolation need only be carried out from the thirteenth to the twenty-sixth day. Dr. MELVILLE DUNLOP sometimes wondered if the total withdrawal of regulations and rules in infectious diseases would produce any bad effect. He corroborated Dr. Ker's experience with regard to the non-infectivity of established whooping-cough. Chicken-pox was so mild that its regulation might well be ignored. Dr. MEIKLE said that infectious diseases were responsible for 160,000 day absences per annum among 40,000 Edinburgh school children. He favoured the utilization of the early part of long incubation periods, at least in the better-class children. Dr. JAMES drew attention to the milder type of scarlet fever since about 1880. With regard to all these infectious diseases, the amount of disease had not diminished, but the type had become less severe—that is, the germ had not varied, but the susceptibility had grown less. Dr. BURN-MURDOCH said that in several schools for which he was medically responsible they had for some time utilized the early part of the quarantine in chicken-pox, mumps, German measles, and whooping-cough. Mr. FERARD (Head Master, Edinburgh Academy) agreed that school regulations were often an elaborate shutting of the door after the steed was stolen. He also thought that in trifling diseases such as chicken pox, mumps, and Germsn measles, regulations were needless and ought to be dispensed with. Dr. J. CARMICHAEL said his experience reached back to a time when regulation of infectious disease, as at present, was unknown, and yet the results were no worse than now. Dr. KEPPIE PATERSON asked if antiseptic inunction of the skin of cases of scarlet fever sent home desquamating was advisable. Dr. JAMES RITCHIE cited a case of scarlet fever when desquamation of the scalp seemed to be the cause of "return" cases. Dr. J. S. FOWLER said it was desirable that mumps and chicken-pox should be taken in childhood, when they were much less serious infections than in adult life. At the close of the discussion it was resolved to form a committee to consider the practical suggestions as to periods of detention and quarantine made by Dr. Ker.

ROYAL SOCIETY OF MEDICINE

SECTION OF OPHTHALMOLOGY.

Glass Worker's Cataract.

AT a meeting on December 3rd, Sir ANDERSON CRITCHETT, President, in the chair, Mr. HERBERT PARSONS showed specimens of experimental glasses prepared by Sir William Crookes. They were synthetically prepared glasses. Sir William Crookes had two soda fluxes made by Messrs. Powell, and added to these specimens of flux, certain metals in definite proportions. He then made the glasses in small quantity, cut slices, polished them, and investigated their properties in reference to transmission of heat, and he had taken photographs of the absorption of ultra-violet rays with a quartz spectograph to test their transmission of luminous rays, and estimated their colour with the tintometer. In order to test with the greatest possible accuracy Sir William invented an exceedingly delicate instrument named the radiometer balance. He made a glass which cut off 96 per cent. of the heat. The subject was of much wider importance and applicability than the research seemed at first to show. Dr. MORRISON LEGGE, of the Home Office, said glassworker's cataract was brought to his notice as a member of the Departmental Committee which sat to inquire into the question of compensation for industrial diseases in 1906; and much valuable information was forthcoming from a very intelligent secretary of a glassworkers' association. The late Mr. Simeon Snell set himself to collect information on the subject, but his method was not calculated to yield the truest results, for he circularized the manufacturers themselves, asking how many cases of cataract they had known among their workers. As a result Mr. Snell came to the conclusion that cataract was not specially prevalent among glass workers. A systematic examination of workers for the condition might result in men having the condition being discharged, whereas it took ten to twelve years to prove disabling. The speaker went himself into the glass factories of St. Helens and Sunderland, and he was very much impressed by the number of men who came up showing this cortical cataract. It varied in size from a pin's head to what looked like a large blot of ink in the centre of the pupil, and was quite different from the peripheral striae in senile cataract. He was struck by the small degree to which the eyesight of the patients suffered. In only very few cases were there opacities in the cornea. The PRESIDENT said that in Italian glass works the workers were much nearer the flame, and it was very rare indeed to find a worker of 40 years of age whose cornea was not affected.

Artificial Eyes.

Mr. N. BISHOP HARMAN described an operation to improve the effect of an artificial eye, the object being to render the loss of an eye less conspicuous. Other things being equal, the effectiveness of the disguise was, he said, controlled by the shape of the palpebral fissure. With a small fissure the shell was effective; with a wide and generous form of fissure the shell provided insufficient support, so that the lids dropped away, deep sulci marked the lids, and the shell was exposed in its naked bareness. The operation aimed at doing for the large-eyed what the small-eyed had by Nature. The lids were secured in a clamp devised for the purpose, then split at the intermarginal space, and the raw surfaces brought together so as to shorten the fissure. The lid surfaces were

protected from scarring by the suture, and by rubber guards that also afforded elastic pressure. On the fourth day the suture was removed and any adjustment of an excessive effect could be made. The effect of the narrowing of the fissure was to draw forward the lids, slightly cover the shell, and shadow it, so that in place of the fixed stare there was a slight and subtle wink. The pull of the lids against each other tended to smooth out the deep sulci above and below; the relative movement of the shell was also improved.

Iritis.

Mr. W. M. BEAUMONT, in a paper on iritis, rheumatic and toxaemic, said doubts had been thrown upon the existence of a rheumatic form of iritis, and modern views of the nature of rheumatism seemed to coincide with those doubts. The author, earlier, had been a sceptic, and his views had found expression on several occasions in the columns of the BRITISH MEDICAL JOURNAL. Poynton's and Paine's researches, based on bacterial experiment, had stimulated interest, whilst the papers read at the annual meeting of the British Medical Association and at the International Medical Congress brought the subject again to the front. A difficulty arose in Poynton and Paine's results, because iritis associated with acute rheumatism was so extremely rare that it might be considered negligible; whereas these investigators had been able, on at least two occasions, to produce iritis by the intravenous injection of the products of rheumatic infection into rabbits. A negation of rheumatic iritis seemed to be a natural corollary of the "passing" of rheumatism, and it seemed to the author that their experiments almost proved too much. He thought that a more extended view of the frequency of toxaemia, and especially of gonorrhoea, as a cause of iritis would be the outcome of further research. But as, in the past, it had been usual to parcel out the different causes of iritis without including toxaemia as one of them, it was clear that, if that factor were generally accepted, it must very considerably reduce the percentage of some of the fully recognized causes. He thought that the class that would be materially reduced would be the nondescript one, "rheumatic."

SECTION OF THE HISTORY OF MEDICINE.

AT a meeting on November 19th, Sir HENRY MORRIS, Vice-President, in the chair, Dr. CHARLES SINGER, in a communication regarding St. Hildegard, of Bingen, who was born in 1099 and died as prioress of Rupertsberg in 1179, said she was a woman of extraordinarily strong and original character. Several scientific works were attributed to her. The *Physicas* comprised a collection of the scanty scientific knowledge of the twelfth century, and was of special medical interest as containing a description of the nature and uses of herbs. It was also remarkable for some sound hygienic views. The *Liber Simplicis Hominis* contained scattered throughout its chapters valuable glimpses of the physiological conceptions prevalent in Germany in the twelfth century. Another work, the *De causis et curis morborum*, to which Hildegard's name was attached, was regarded by the speaker as spurious, and probably collected early in the thirteenth century, after the death of Hildegard. Another work, *Scivias*, was especially interesting from the fact that much of the text was presented in the form of visions. These visions were magnificently illustrated in a contemporary manuscript almost certainly prepared under Hildegard's own supervision. The speaker had caused copies to be made of some of its miniatures. These he exhibited, and showed that the primary physical basis of the visions was migraine or scintillating scotoma. The miniature exhibited typical fortification figures, stars and coloured spots, and in some cases a shimmering concentric appearance occupying the whole field of vision. There was also evidence from her writings that Hildegard, who, in spite of her active and energetic life, had very poor health, was a sufferer from a migrainous affection. Some of her visions presented the interesting phenomenon of reintegration from other visions. In one instance it was possible to demonstrate the separate elements out of which such a composite vision had been built. Dr. HINGSTON FOX, speaking as a personal sufferer from migraine, suggested that the blue colours in the pictures were as important as the red—both these hues, as well as others, being characteristic of migrainous spectra. St. Hildegard's imagination, highly stimulated by spiritual influences, would make her symptoms vivid, and, associating them with heavenly visions, she would fix her attention upon them until they could be depicted in the forms shown. Dr. J. D. ROLLESTON read the first part of a paper on the *Medical aspects of the Greek anthology*. Although the anthology had received much less attention than the Roman poets from medical historians there were altogether about 400 epigrams out of a total of nearly 4,000 which dealt more or less directly with medical subjects. They extended over a period of nearly fifteen centuries, but the great majority were by writers subsequent to the establishment of the Roman empire. Most of the medical epigrams were to be found in the Palatine collection. At least five of the contributors to the anthology were medical men, and probably some of the anonymous epigrams were by doctors. The epigrams on medical men were divided into panegyrics and satires. The first group included epitaphs and other verses on the natural philosophers and physiologists who formed one of the principal sources of Greek medicine prior to Hippocrates, as well as similar epigrams on distinguished physicians, such as Hippocrates, Galen, Asklepiades, and Praxagoras, and medical writers such as Nicander, Paulus Aegineta, and Marcellus of Side. Of the twenty doctors who formed the subject of the satirical epigrams fourteen were not spoken of by any other writer, and of the remaining six none could be identified with certainty. The satires were mostly the work of late writers, and like the epigrams of Martial were justified by the inadequate medical training due to the dissemination of the doctrines of the Methodist school. Consideration of the numerous other medical allusions in the anthology was deferred to the next meeting. Professor RICHARD CATON spoke upon the subject of the paper. Dr. RAYMOND CRAWFURD showed a collection of *Touch pieces*, and gave a short account of their history in relation to the cure of the king's evil. Dr. F. W. COCK showed a collection of old surgical instruments, amongst which was a ritual circumcision knife with a bloodstone in the handle.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 20th Dr. A. E. BARNES, in opening a discussion on the *Treatment of a failing heart*, said that it was important to remember that practically nothing could be done to influence the progress of most chronic lesions of the heart, and it must be recognized that it was also impossible to increase the efficiency of the cardiac muscle by means of drugs. On the other hand, by a study of the general conditions of the circulation, such as the distribution of the blood and its volume, it was possible to do a great deal to give the heart muscle a more complete rest. Digitalis and its allies had a beneficial effect only owing to the fact that they protect the ventricle from a series of irregular stimuli arising in an incompetent auricle. The treatment of acute cases of heart failure, whether due to overstrain or to the toxaemias accompanying acute fevers, was still in a very unsatisfactory state, and a more minute study of the mineral metabolism and of the resulting variations in the blood volume might lead to useful knowledge. In the treatment of chronic cases attention was focussed on the two great symptoms, oedema and dyspnoea. In the treatment of oedema there were good physiological reasons for a strict limitation of the dietary as to water, salts, and even proteins, carbohydrates, and fats. The best diet for a bad case was, therefore, that recommended by Karrell in the middle of the last century. There need be no fear of starving the ventricles, for they would steal from the tissues. The best diuretics were those of the caffein series. The existence of renal fatigue must be remembered, and no diuretic continued if it refused to act. Too large doses must be avoided for the same reason. Digitalis, although theoretically of use only in cases of auricular fibrillation, was often administered by the speaker in other conditions in the hope that all its beneficial properties had not yet been discovered. For true cardiac asthma it was useless given undiluted. Morphine, or, better still, heroin, should be administered at the commencement of the attack, since the dyspnoea was useless to the organism. Other hypnotics might serve as prophylactics. Chloral had

been repeatedly used by the writer without disaster; but, owing to its bad reputation, he had been glad to use adalin, or even veronal, since they have been found of great use in some cases. Dr. ARTHUR HALL laid stress upon the prevalent but objectionable custom of diagnosing a "weak heart" in persons presenting no real evidence of such weakness. Such a diagnosis might cause life-long anxiety. Dr. A. E. NAISH suggested that the improvement in the condition of patients after admission into a hospital, even when they had been resting in bed before admission, was due more to limitation of diet than to any change in the conditions of rest. The current theory of the action of digitalis in cases of auricular fibrillation, even if regarded only as a working hypothesis, was a great step in advance, and made intelligible its most commonly observed effect. It did not, however, explain why a slowing of rate produced by digitalis sometimes continued for weeks after the discontinuance of the drug. The slowness of action of digitalis was occasionally of disadvantage, and it was in such a case that a physiologically standardized preparation of strophanthin in ampoules had been proved to act with great rapidity. In regard to the dyspnoea of cardiac failure, the advantage of hypnotics lay largely in their power of depressing the sensitiveness of the respiratory centre. Dr. A. G. YATES alluded to the value in some cases of a venesection. Dr. S. MATHEWS pointed out the importance of administering an aperient before having recourse to heart drugs. Dr. E. W. ADAMS asked whether Dr. Barnes had found strychnine of use in these cases. Dr. R. P. WILLIAMS alluded to the danger of large doses of digitalis, and referred to a fatal result he had seen after a heroic dose had been given. Dr. BARNES replied. Dr. A. TURNER showed a case of oxycephaly. Dr. SINCLAIR WHITE showed three specimens of resection of the colon for carcinoma, and a specimen of removal of the entire colon for stasis. Mr. GRAHAM SIMPSON showed a specimen of stones in the kidney and ureter.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 6th, Dr. WALTER BROADBENT in the chair, Sir ANTHONY BOWLBY, in an address on the character and site of *Abdominal pain and its relation to diagnosis*, pointed out that attacks of acute, transient, or recurrent abdominal pain were—apart from neuroses, diseases of the spinal cord, or poisons—due to: (*a*) Obstruction or distension of a viscus; (*b*) interference with its circulation; (*c*) extension of inflammation to the peritoneal coat. An exact, detailed statement of one particular attack, its mode of onset, immediate effect, and subsequent symptoms was of much value. It was especially useful to know whether tenderness remained at any point after the acute attack was over, because pain was frequently referred to points distant from viscus affected, but persistent local tenderness is a true guide. The position and lines of radiation of pain were often important; affections of gall bladder, for instance, were the only abdominal conditions causing anterior chest pains, catching of the breath, etc. In this connexion, however, it should be remembered that a diagnosis of gall stones was not excluded by absence of pain, for pain was due to their passage, not to their mere presence. Many patients whose gall bladders were full of stones were treated for years for indigestion simply because they never had suffered from colic or jaundice. As for renal calculi, only in about 1 case in 5 was there a stone really present. Attacks of colic were mostly due to crystals passing down the ureter; stones lying in pelvis of kidney are painless. In 1 case the passage of a stone down the ureter had been watched by *x* rays; the process lasted three years, and was unattended by any pain or other symptom. In regard to the appendix, pain was referred to the umbilicus or other distant part usually in cases in which the peritoneal coat was not affected; it was to be remembered the small intestine was entirely intraperitoneal, while the large intestine was not. This fact explained why the large intestine mostly located its pain more definitely to the site of disease, as in dysentery or rectal cancer; though the simple presence of cancer or ulcer in this situation might produce no pain or symptom, this only arising on occurrence of any obstruction. The speaker also described cases in which neurotic persons had severe abdominal pains, but no organic lesions, and demanded operations which were often injudiciously and unsuccessfully performed; he also mentioned several cases in which abdominal section had been performed in consequence of pain which was really due to locomotor ataxy. In the discussion which followed Mr. BUCK expressed a belief that "splanchnic neurasthenics" generally had some real organic lesion; Dr. GORDON DILL and Mr. H. N. FLETCHER gave an account of the exact position of referred pain in relation to the distribution of spinal nerves.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 21st, Dr. T. WARDROP GRIFFITH, President, in the chair, Dr. M. J. STEWART, in a paper on *Myeloid sarcoma*, emphasized the importance of clearly differentiating true myeloid sarcoma from malignant giant-cell sarcoma, and advocated conservative treatment of such cases. The paper was based on an analysis of all the cases of myeloid sarcoma—50 in number—treated at the Leeds General Infirmary during the years 1899 to 1912 inclusive. These were investigated from both the clinical and the pathological standpoint, but special attention was paid, on the one hand, to the question of prognosis, and, on the other, to the minute anatomy of the growths. Forty cases were successfully traced, and of these 38 were alive at the time of writing, after periods varying from one to fourteen years from the time of operation. Of the 2 patients dead, 1, a jaw case, was the subject of some obscure bone affection, while the other, a femur case, had refused operation and lived for five years after the exploratory incision. In neither case was there any evidence of dissemination. As a contrast to the myeloid series, 5 examples of malignant giant-cell sarcoma were investigated, in every one of which death with lung dissemination took place in from six months to three years from the time of operation. In regard to a histological diagnosis, this, it was suggested, should be based on the morphological characters of the giant cells, especially as regards their nuclei. In myeloid sarcoma the latter were numerous, uniform, small, and without mitoses; in malignant giant-cell sarcoma they were few, sometimes single, irregular, and often very large, while mitotic figures were frequent. The chief practical deduction from the series of cases under review was that conservative treatment should have a thorough trial in suitable cases in the first instance, and that amputation should only be employed after the failure of less radical measures. The following were among the exhibits: Mr. WALTER THOMPSON: A boy on whom *Splenectomy* had been performed for rupture of the spleen forty-eight hours after the accident. Fourteen days after the operation the only noticeable change in the blood was a marked increase in the eosinophiles. Mr. J. F. DOBSON: A man aged 45 who was admitted to the infirmary in August, 1912, with *Complete intestinal obstruction*. A caecostomy was performed, and on September 17th, 1912, a large growth was removed from the transverse colon. A secondary nodule of growth, the size of a pigeon's egg, was found close to the free margin of the right lobe of the liver. A wedge of the liver containing this secondary growth was removed. No other secondary deposits were detected. The patient recovered satisfactorily, and was able to resume work in February, 1913, and returned a few weeks ago for closure of the caecostomy opening. He now weighed 4 lb. more than he did two years ago, and his general health was perfectly good. Microscopically both primary and secondary growths showed the characters of adeno-carcinoma.

HARVEIAN SOCIETY.

AT a meeting on November 27th, a discussion was held on the subject of the *Registration of venereal diseases*. With the exception of Dr. REGINALD DUDFIELD all the speakers were apparently against registration as impracticable, unfair, and useless. Dr. ARTHUR MAUDE pointed out that when this suggestion of Government notification was first mooted, no indication had been given that there would be any protection to the medical men either for breach of confidence or errors of diagnosis.

Reviews.

AN ATLAS OF HUMAN BLOOD CELLS.

THE publication of the three supplemental volumes of the monumental work entitled *Atlas der menschlichen Blutzellen*[1] (Atlas of human blood cells) marks an event of great moment to all students of the morphology of the blood cells in health and disease. They represent the latest efforts made by Professor PAPPENHEIM to place before the reader the extremely technical study which he has carried out during the last twelve years upon fifty different cases of blood disease. Not the least important feature of Professor Pappenheim's scheme is the impetus his generalizations must give to those who seek to push this extremely interesting study to still further lengths, but as the author freely admits, his scheme has had to undergo modification from its original intention of supplying a guide to the mere student to that of placing before the investigator the last phases of what is little more than as it were a cinematographic representation of the blood cells under the rapidly developing modes of blood staining as well as of cell metaplasia. The plates are superb and supply the student with a means of recognizing types of cells wanting in the ordinary textbooks.

When we turn to the text, however, the faults we have pointed out in former reviews are found to persist. Professor Pappenheim leads his readers into mazes of terminological difficulties. Lest we should be thought over-critical, we would specifically refer the reader to the conclusions drawn by the writer on the origin of blood cells. Reference is made first to the dualistic school which seeks a separate origin for lymphocytes and leucocytes (granulocytes); then there follows an analysis of the views of the neo-dualists, who differ mainly from the older school of dualists merely in the fact that they assign the two sets of parent cells, which give rise to lymphocytes and leucoblasts, to different anatomical tissues—namely, the lymphatic-vessel and blood-vessel walls. But confusion is produced by the observation that the dualists in turn have some hankering after unicist tendencies, for both types of cells are traced to a common one, which does not, however, exist in the normal blood. The reader is then encouraged to look for more light in the views of the "unicists," who find a common cell from which red cells and all white corpuscles are derived, whether granular or not, namely, the small lymphocyte of the normal blood. Here again we encounter the complicated terminology in which Professor Pappenheim enshrouds his observations. We are told that he ranges himself in still another category of workers, the monophyletic or modified unicist school, and that he himself is one of the neo-monophyletics; the unicist view must be "tempered" and all cells of the blood—granular or non-granular leucocytes and red cells—must be traced to a common parent—a lymphoidocyte which does not occur in normal blood. We may be wrong in insisting upon the confusion into which the reader is thrown in endeavouring to fathom Dr. Pappenheim's meaning, but judging by the criticisms to which the author has been subjected and to which he refers in the opening sections of the third part, it would seem that others have found the same difficulty.

In the first part are contained Plates xxvi to xxx, which are concerned with the white corpuscles met with in diphtheria of childhood, in helminthiasis of childhood, in normal states, in status lymphaticus, in tertian malaria, after small-pox vaccination, in carcinoma of the pelvis with bone metastasis, in Hodgkin's disease, and in pneumonia. The second part contains Plates xxxi to xxxviii, showing the appearance of the white cells in quartan malaria, in acute lymphatic leucocythaemia, and in acute myelocytic leucocythaemia. Plate xxxvii illustrates lymphoid cells met with in the marrow in health and in the blood of the ordinary chronic myelocytic leucocythaemia. A scheme is given showing how the author differs from Ehrlich, Naegeli, and Ziegler in his views as to the interrelationship of the lymphocytes and granulocytes to one another. The third part contains Plates xxxix to xliii, and here there is still further elaboration. A new blood picture is described as that of acute leucoplastic leucocythaemia, which in the older nomenclature would be spoken of, perhaps, as acute lymphatic-myelocytic leucocythaemia. The last two plates of the volume portray the red cells met with in the above diseases, which are primarily examples of changes in the white cells.

When the reader has tried to find his way through the mazes of intricate terminology already referred to he must not yield to the feeling of exhaustion produced, but, to test the value of this important work, should take his own blood films of the various diseases known as leucocythaemia, and in the light of the experience obtained by a perusal of Professor Pappenheim's work ask himself whether, after all, he has not in the past been too easily satisfied with the common classification of leucocythaemias as followed out in the blood examination. We are quite sure, especially if he can repeat his blood examination, using the newer methods of staining advocated by the author, that he will find new vistas opened out. With the aid of Professor Pappenheim's admirable plates he will with ease recognize not only that Professor Pappenheim has laid the whole medical profession under deep obligation by his searching inquiries into the genesis of the white cells in health and disease, but that he has made an important contribution to the sharper differentiation of the clinical varieties of leucocythaemia.

[1] *Atlas der menschlichen Blutzellen.* Von Professor Dr. Artur Pappenheim. Supplement-Band, 1, 2, 3 Lieferung, Jena: Gustav Fischer. 1912. (Roy. 8vo, pp. 240; plates xxvi-xliii; 13 figures. Mk. 14.)

DIETETICS.

DR. HINDHEDE, author of a book on *Protein and Nutrition*,[2] now before us, is a Danish physician whose work on this subject is well known in his own country and in Germany. It has received honourable recognition also from the Danish Government, which has established for his use a State Laboratory, and appointed him to be its Director at a salary sufficient to allow him to devote himself to the investigation of questions connected with diet and nutrition. As the son of a Westjutland peasant farmer he had been brought up on a diet consisting of porridge, black bread, potatoes, vegetables with a little butter, bacon and fish, and when he returned after his medical studies to practise amongst his own district, he was at first disposed to believe that the people were under-nourished; further experience convinced him that these people who lived in this way were second to none in energy, endurance, and muscular strength, so that he ended by going back to the diet of his youth. He brought up his family upon this simple food, and he has been for many years a persistent advocate of a low protein diet, on the ground of its superior healthfulness as well as its economy. He does not exclude meat or animal food, but he regards it as unnecessary and only to be taken in small quantities, and absolutely condemns the use of alcohol, tea, coffee, and tobacco. He quotes in support of his opinions the recent work of Chittenden, Fletcher, and Irving Fisher; the athletic feats of vegetarians, and the more recent views of workers on metabolism, but he thinks that Chittenden places the protein requirements too low. It is to be regretted that the book is written in a polemical style, and especially that, in arguing against the older doctrines of Voit, he uses language that is unseemly in relation to one who was a pioneer in the study of the chemistry of metabolism. We commend the book to all who are interested in the subject of the economy of dietetics. There is strong ground for believing that the present extent of the use of meat is excessive and bad both from the economical and the dietetic points of view, but any reform has to encounter a vast amount of prejudice, not the least of which is the insuperable objection manifested by our poorer classes to the use of anything which can be described as cheap. The translation is competently performed, but the editor should have known the abbreviation "grs." in this country stands for grains and not for grams, and there is more than one instance in which the language employed is scarcely idiomatic English.

[2] *Protein and Nutrition: An Investigation.* By Dr. M. Hindhede. London: Ewart Seymour and Co., Limited. 1913. (7s. 6d. net.)

Dr. ARON's book on the biochemistry of growth in man and in the higher animals[3] is a useful and well arranged compilation, showing the results obtained by various investigators. He limits the subject to the growth of mammals, and especially of man, and he arranges it under the following headings: (1) Changes in the chemical composition of the body during the period of growth, including the alteration in the proportion of water, fat, albumin, and mineral salts, both in the whole body and in special parts and organs; (2) the metabolism of the growing body in health and in under-feeding, and as varied by the nature and composition of the food; (3) the temporary disturbances of the normal chemistry of growth, either resulting from interference with the growing impulse, or from secondary causes. Under these headings he has tabulated the work of various investigators, arranging them in parallel columns, so that the book is valuable for reference. There appears to be a reduction of the percentage of fat and of water as the body grows; but in spite of the large proportion of fat the newly-born infant, as everyone knows, is sensitive to changes of temperature, and the author accepts the current view that this is due to the heat-regulating centre being not fully developed; it is also noteworthy that the fat of the newly-born infant is much more solid than in the adult, melting at a relatively high temperature. Analysis shows that it contains less oleic acid and is richer in palmitic and stearic acids; thus the fat of the newly-born infant contains 52 per cent. of fluid fatty acids and 39 per cent. of the solid fatty acids, while that of the six-year-old child contains 82 per cent. of the former and only 10 per cent. of the latter. The percentage of albumin increases with age to a certain extent, but the ash shows a steady and marked increment, especially the phosphoric acid and lime. The author asserts that the process of growth is not evenly and continuously progressive, but periodic. Among interesting points in the metabolism of the embryo and young animals are the facts that during the hatching of hens' eggs uric acid is formed by the embryo, that mammals which grow rapidly have richer milk—thus, for example, it takes a baby 180 days to double its weight, human milk containing 70 calories and 1.2 of albumin in 100 parts; but a guinea-pig, which doubles its weight in six days, is suckled with milk that contains 160 calories and 15.5 parts of albumin per cent. It would appear that a deficiency of the quantity of food is of greater importance than a deficiency of any single constituent such as albumin, but when young dogs were fed on food poor in fat although rich in carbohydrate, the proportion of albumin and ash in the fat-free substance was always less than in those fed with a larger amount of fat. The author holds that, though the relations of the ductless glands to growth is certain, their mode of action is still obscure; feeding with them has given no conclusive results. Under-feeding, although its effect is very marked at the time, does not, he thinks, produce any permanent ill effect; thus, a young male rat if underfed may be no larger, if as large, as a well-fed female rat of the same age, but on being supplied with an adequate quantity of food will rapidly overtake its sister, and develop to its normal size and weight. Enough has been said to show that Dr. Aron's little book contains much interesting matter, and we have pleasure in commending it to the notice of those interested in the subjects of which it treats.

The well-known textbook by Dr. CARL WEGELE on the treatment of diseases of the stomach and intestines has been repeatedly noticed in these columns. The third edition was reviewed in December, 1905, and the fourth edition in July, 1911, but the *Therapeutics of the Gastro-intestinal Tract*[4] is an adaptation of Wegele's book by Drs. MAURICE H. GROSS and I. W. HELD, in which it is difficult to recognize the original. It is usual in such a work to mark the additions by the use of square brackets or different type, but here no such arrangement has been followed; the editors say in their preface that they have deemed it necessary to make extensive additions by adding sections on general and special diagnosis, a special chapter on the oesophagus, and one on the use of the *x* rays in the diagnosis of stomach and intestinal diseases, as well as chapters upon the use of the duodenal tube, on the diagnosis and treatment of diseases of the pancreas, on parasitic diseases, and diseases of the intestinal blood-vessels. That the information thus conveyed is useful does not admit of doubt, but it is questionable whether it is legitimate so to transform a book that the work of its author can no longer be recognized. In the former notices of Dr. Wegele's book we have sufficiently shown our appreciation of it, but we are disposed to think that the additions are scarcely on the same level; while the general matter is up to date, the way in which it is presented is open to criticism, and might have been much improved by careful editing.

[3] *Biochemie des Wachstums des Menschen und der höheren Tiere.* Von Dr. Phil. et Med. Hans Aron. Jena: Gustav Fischer. 1913 (Roy. 8vo, pp 71. Mk. 2.50.)

[4] *Therapeutics of the Gastro-intestinal Tract.* By Dr. Carl Wegele. Adapted and edited with additions by Maurice H. Gross, M.D., and I. W. Held, M.D. London: Rebman, Limited. 1913. (Roy. 8vo, pp. 345: 52 figures, 1 plate. 12s. 6d. net.)

DISEASES OF THE NERVOUS SYSTEM.

THE second edition of the English translation of BING's *Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord*[5] gives an admirable and brief account of the symptomatology of nervous diseases, based on their pathology, written for the especial benefit of practitioners who are not neurologists. The first 84 pages deal with the regional diagnosis of lesions of the spinal cord, the rest of the volume is devoted to the regional diagnosis of brain lesions. The book is clearly written and as short as is compatible with clearness. It is furnished with a number of excellent and simple diagrams; in the first English edition the explanatory text beneath the illustrations was in several cases unsatisfactory, and it remains unsatisfactory in the second edition; many of the letters or abbreviations used to indicate different structures in the figures are not interpreted in the explanatory text (Figs. 30-37). Such omissions are annoying to the reader, and might well have been made good at the opportunity afforded by the appearance of a second edition. Again, the convenience of the reader would be served if the abbreviations or letters used on the diagrams were placed in alphabetical order in the accompanying explanatory text, and not haphazard. The translation has been well made; the "lower brachial plexus-paralysis" of p. 70 should be "paralysis of the inferior brachial plexus," or "lower arm paralysis"; on p. 20 "myosis" is spelt correctly, on p. 23 it is spelt "miosis." These, however, are all comparatively trifling defects in what is an excellent book, and it may be warmly commended to the attention of medical men in search of a practical guide to the interpretation of the signs and symptoms of nervous disorders. It does not seem to contain any account or explanation of the genesis of the referred pains or hypersensibility that so often accompany visceral disease, and so often require medical treatment. Perhaps Dr. Bing will insert this in his next edition.

Dr. ALLEN STARR is to be congratulated on the appearance of the fourth edition of his well-known textbook of *Nervous Diseases*.[6] It is divided into four parts. The first contains an introduction to the subject, the methods of examining patients, and the principles of diagnosis. The second, in four subsections, is devoted to organic nervous diseases, and occupies 570 pages. The third is given to functional diseases, and the fourth to the sympathetic nervous system. A small number of references to the literature are inserted; Dr. Starr has sifted the literature, but has written most of his book on the strength of his own observations and experience during the last thirty years. Among the most brilliant recent achievements of neurology he counts the surgical measures recently devised for the treatment of many nervous diseases, for many of them lie on the borderland between surgery and medicine; he takes care to point out the limitations as well as the successes of treatment on these lines. The book, it need hardly be said, is well and clearly written, and it fully deserves its great reputation. Dr. Starr frequently quotes cases; the illustrations in the text are good and well

[5] *Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord.* By R. Bing. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon.). Second edition, revised and enlarged. London: Rebman, Ltd. 1913. (Demy 8vo, pp. 235; 73 figures. 10s. 6d. net.)

[6] *Organic and Functional Nervous Diseases; a Textbook of Neurology.* By M. Allen Starr, M.D., Ph.D., LL.D., Sc.D. Fourth edition. London: Baillière, Tindall, and Cox. 1913. (Demy 8vo, pp. 980; 30 plates, 323 figures. 25s. net.)

chosen, and so are some of the coloured plates. The volume is well printed, but is, perhaps, unnecesarily heavy, so that it is unduly fatiguing to hold in the hand. It is very full in its treatment of the various nervous disorders, less than half as long as Oppenheim's great German text-book, perhaps half as long again as Dr. Judson Bury's recent volume on the same subject. It may be cordially recommended to all neurologists and physicians in search of a complete and straightforward account of nervous diseases.

SEX TEACHING AND PERSONAL HYGIENE.

THERE is evidently a feeling abroad that the time has come when the traditional practice on the part of parents of putting off inconvenient questions upon the subject of reproduction, and leaving their children to glean more or less incorrect and mischievous information elsewhere, should be abandoned in favour of a franker and honester course. This is doubtless a matter for congratulation, but we are not so sure as the writers of the batch of manuals [7] before us would seem to be that the parent is the person from whom the initiation may best come. There is, we believe, an instinctive and almost invincible shyness, as between parent and child, in regard to the discussion of such matters; and if, as we quite agree, it be desirable that the legitimate curiosity of the normal child should be satisfied, the question is at least debatable whether provision should not be made in the school curriculum for a straightforward course of instruction in the elementary physiology of reproduction. In this country such instruction is, we believe, not always available; though the masters of some preparatory schools consider it to be part of their duty to say what is necessary. In other cases, and these probably form the majority, the responsibility must, for better or worse, be accepted by those parents at any rate who believe that the present policy of *laissez aller* has dangers too serious to be safely ignored. In *Herself*, one of the books before us, the authoress, Dr. E. B. LOWRY, quoting the Hon. Edwin Sims, asserts that in the United States "literally thousands of innocent girls from the country districts are every year entrapped into a life of hopeless slavery and degradation because parents in the country do not understand conditions as they exist and how to protect their daughters from the 'white slave' traders, who have reduced the art of ruining young girls to a national and international system." It is not an unreasonable contention that girls who are ignorant of sex matters—boys, too, for that matter—will be more likely to become victims of the numerous dangers of one kind and another that beset the path of adolescence than those who have been duly warned and enlightened. In the books before us parents who realize the necessity of some such instruction, but feel unequal to the task of undertaking it unaided, may certainly hope to find what they need. Where most are excellent and nearly all are adequate it would be an invidious task to discriminate between the various authors and their works. Some are designed for the use of quite young children, others for those at or near puberty, others again for the young man or woman on the threshold of workaday life. Sir THOMAS CLOUSTON has contributed a well-written manual to a series of books on *Questions of Sex*, addressed to young men, containing much excellent advice and sound warning on the subject of marriage and the avoidance of those pitfalls by which it is too often ruined in advance. Nearly all the books contain a fairly clear account of the physiology of reproduction, with warnings against the dangers of self-abuse. Those intended for older readers inculcate the duties of personal cleanliness; girls are warned against over-exertion during menstruation; the subject of venereal disease is dealt with and its terrible possibilities duly enforced. We notice, however, in some of the volumes a regrettable tendency to sentimentality; in our opinion writers of popular manuals on sex matters would be better advised to cultivate an impersonal tone. The danger to be shunned here is not, as in other spheres of popular science, that of failing to excite interest, but of over-exciting it. We question whether the statement that the human embryo is borne in a "nest" situated "close to mother's heart" is calculated to convey even an approximately accurate anatomical suggestion. If it be pleaded that such statements are made only for the benefit of the very young, we doubt whether any detailed information on these matters is desired or desirable at so early an age. It should suffice to answer truthfully yet briefly such questions as may be asked, until the age of puberty is imminent; it is that time which Nature indicates as the period for fuller information.

[7] *Himself*, by E. B. Lowry, M.D., and R. J. Lambert, M.D.; *Herself*, by E. B. Lowry, M.D. Chicago: Forbes and Co., 1912. (4s. net each.) *Confidences; False Modesty; Truths.* By E. B. Lowry, M.D. Chicago: Forbes and Co. 1912. (2s. net each.) Questions of Sex Series: *What a Boy should Know*, by A. T. Schofield, M.D., and P. Vaughan-Jackson, M.D.; *From Girlhood to Womanhood*, by E. Sloan Chesser, M.B.; *Before I Wed*, by Sir Thomas Clouston, M.D., LL.D.; *Life and Its Beginnings*, by H. Webb, M.B. Lond. London: Cassell and Co., Ltd., 1913. (2s. 6d. net each.) *What a Father should tell his Little Boy. What a Mother should tell her Little Girl.* By Isabella Thomson Stuart, M.D. New York and London: Funk and Wagnalls Co., 1912. (2s. 6d. net each.)

NOTES ON BOOKS.

THE edition of *Who's Who* [8] for 1914 contains 88 pages more than its predecessors, or 2314 altogether. This tendency to increase has been observed for many years, and is partly to be accounted for by a feature of the book which undoubtedly adds materially to its value as a desk work of reference; it is that it contains short biographies of many of the leading statesmen and men of letters or science in other countries. The biographies, however, are for the most part British, and the list is very comprehensive. The book is indispensable to all in any way engaged in public life, and very useful to every intelligent reader of the newspapers. It is even sometimes entertaining by reason of the occasional sidelight it throws on character; thus, one of the examiners of plays, after enumerating his engagements as dramatic critic to various newspapers, says that he "may be regarded, if any one regards dramatic critics, as having been the doyen of his craft." The one effect of the growth of the bulk of the book has been the production for several years past of *Who's Who Year Book*, [8] which is, as it were, the converse of the main volume, for in the *Year Book* persons are classified according to their offices—thus, there are lists of Government officials, members of Parliament, governors of colonies, heads and professors of universities, head masters of public schools, premiers of colonies, and members of royal commissions now sitting. It also contains a list of learned societies, of clubs, and of great steamship lines and their agents. The *Year Book*, as the editor recognizes, makes a special appeal to journalists, but the lists it contains will be useful to many others. Another book in the same style issued by the same publishers is directly addressed to journalists and others engaged in literary work. It is the *Writers' and Artists' Year Book*, [8] and is described as a directory for artists, writers, and photographers. The editor, Mr. Mitton, has inserted an article on photographing for the press, which he hopes may help those who wish to turn a hobby to practical account. Information with regard to some of the leading foreign periodicals is included.

The Year Book of Scientific and Learned Societies of Great Britain and Ireland [9] has reached its thirtieth annual issue. It contains a record of the work done during the session 1912-13 by many British learned and scientific societies and Government institutions; it includes notices of most of the principal medical societies. In the case of the more prominent societies such as the Royal Society, the British Association, the British Medical Association, the Royal Society of Medicine, the Royal Medical Society of Edinburgh, the Edinburgh Medico-Chirurgical Society, the Royal Academy of Medicine in Ireland, the Chemical Society, and the Society of Chemical Industry, lists of papers read are given. The volume will thus be of assistance in following the recent literature of science.

Unhealthiness of mind and body seems to possess a morbid attraction for a certain type of mind, and there is, therefore, never any lack of a public for a novel such as *Tantalus*, [10] in which the author of *The Adventures of John Johns* has given a highly coloured account of the nervous breakdown of an elderly widower, who, against the wishes of his grown-up family, marries a girl young enough to be his daughter. It is open to question whether novels dealing with the different manifestations of disease serve any useful purpose, but the most carping critic must admit that, whatever else they lack, they are seldom wanting in interest. The circumstances attending Henry

[8] London: Adam and Charles Black. 15s., 1s., and 1s. respectively.
[9] Charles Griffin and Co. 1914. (Pp. 380. 7s. 6d.)
[10] *Tantalus.* By the author of *The Adventures of John Johns.* London: T. Werner Laurie. 1913. (Cr. 8vo, pp. 269. 6s.)

Alster's degeneration from a successful business man into a helpless invalid form the plot of a very readable story, and the author is to be congratulated upon the skill with which he has portrayed this unhappy victim of neurasthenia, whose plight has been so accurately described by Hood:

> There's Morbid, all bile, and verjuice and nerves,
> Where other people would make preserves,
> He turns his fruit into pickles:
> Jealous, envious, and fretful by day,
> At night, to his own sharp fancies a prey,
> He lies like a hedgehog rolled up the wrong way,
> Tormenting himself with his prickles.

The first three volumes of *International Clinics*[11] for the year 1913 have been edited, as usual, by Dr. HENRY W. CATTEL, of Philadelphia, with the collaboration of nine or ten medical men of distinction in the United States, Great Britain, and Austria. They include altogether over ninety papers, American writers predominating. Many of the articles are well illustrated, and, taken together, they cover nearly every branch of medicine and surgery. One paper deals with a subject which has not been so elaborately considered since the publication of Casper's work on forensic medicine thirty or more years ago. This is a detailed review by Dr. Gurney Williams, formerly a police surgeon at Philadelphia, of his experience in the investigation of several hundred cases of alleged rape of children and young girls. It is, fortunately, not a subject which comes under the notice of all medical men, and those who have had most experience of it best know how great are the difficulties that it often presents. Another paper which may be mentioned is that by Dr. H. W. Frauenthal of New York, dealing with the use of mirrors in the treatment of cases in which it is desired to teach a patient to use or develop the strength of a certain muscle or group of muscles. There is nothing original in the general idea that mind concentration is useful in such connexions, but there is novelty in the reasoned description of this particular fashion of attaining it.

The success or failure of treatment in cases of chronic heart disease must always depend largely upon the exercise of common sense and goodwill on the part of the patient. An American physician, with wide experience of the difficulties and disappointments attendant upon cardiac therapy, has recently issued a volume of good advice, more especially addressed to "heart patients."[12] In his preface, dated from Bad Nauheim, Dr. JAMES HENRY HONAN, of the Rush Medical College, Chicago, expresses his desire to give encouragement and hope to persons who know they have heart trouble, and by pointing out the ways of error to enable them to recognize the precautions that must be taken to arrest the progress of increasing incapacity. Unluckily, the average business man with a tendency to heart weakness takes but little interest in the physiological processes of his own body, and in very many cases is fond of parading his ignorance. It is to be feared that few readers will make much of Dr. Honan's warnings unless they possess some elementary knowledge of the normal processes of physical life. The conditions of modern life are not conducive to rest, either mental or bodily, and the strain is seldom realized until a breakdown occurs. Hence the value of the writer's advice will be more appreciated after the preliminary stages of disease have declared themselves. That advice touches upon almost every conceivable error that a "heart patient" is likely to commit, and in such a multitude of counsel there is of necessity a good deal of repetition and confusion. The "heart patient" will do well to seek the advice of his doctor before deciding upon any definite line of action.

[11] *International Clinics.* In four vols. Twenty-third series. Vols. i, ii, and iii. Edited by H W. Cattel, A.M., M.D. Philadelphia and London: J. B. Lippincott Company. 1913. (Medium 8vo. pp. 312, 322, 310. Annual subscription, 35s. net.)

[12] *What Heart Patients Should Know and Do.* By James Henry Honan, M.D., Rush Medical College (University of Chicago). New York: Dodd, Mead, and Co. 1913. (Cr. 8vo. pp. 214. 5s.)

THE tenth International Congress of Esperantists will be held in Paris in August (2nd to 10th), 1914. The Comité de Patronage includes the names of ninety-three of the leading men of France. Among the representatives of the Medical Faculty are Professors d'Arsonval, Daniel Berthelot, Charles Bouchard, André Broca, Gariel, Landouzy, Charles Moreu, and Roux. During this congress the International Association of Esperantist Doctors will hold its meeting.

MEDICAL AND SURGICAL APPLIANCES.

Siphon Stoves.

IN dwelling houses, as well as in shops and offices, it often happens that small apartments are unprovided with a chimney outlet, and the hygienic heating of such places is an almost insuperable difficulty. An attempt to grapple with it is made by means of a stove combining the condenser principle, which is fairly well understood, with a siphon principle, which is peculiar to itself. The construction of the siphon stove, with which either gas or oil may be used, is ingenious. The hot gases, after leaving the burner, are carried up through a metal cylinder surrounding a central chamber, and are then directed downwards through two large columns, which form the outer framework of the stove. Within these columns they mingle with the cooler air and condensation of aqueous vapour takes place. The condensate is cast into a removable tray at the foot of the stove, and the gases are then carried up again through a narrow pipe at the back into the superheated central chamber itself. On issuing from this chamber they pass inlets admitting fresh air, which is drawn up between the outer and inner casings of the stove, and the hot diluted and purified gases are then sent out into the room through an opening at the top. It follows that in this process the products of combustion are freed from a considerable part of their water vapour, and very largely also from the constituents which are noxious for the breathing atmosphere. A scientific test carried out for the manufacturers upon the exit gases showed, we were informed, that the carbon dioxide is brought down to a negligible degree of dilution, that the carbon monoxide, even with restricted ventilation, is less than 5 parts in a million, and that 60 per cent. of the sulphur content of the coal gas is dissolved in the condensate. A small amount of radiant heat is possible with this arrangement, but the heat generated is principally contact heat, being directly abstracted from the flue gases by the surrounding atmosphere. Our representative was in a confined space in which one of these stoves had been burning for a considerable time, and was conscious of no sensation of stuffiness or that vague discomfort which, at least to those accustomed to healthy breathing conditions, is the first signal of inefficiency. The absence of flue-loss renders these stoves highly efficient so far as economy of heat is concerned, and for small rooms, when a flue-outlet is non-existent, they will find doubtless a field of usefulness, provided that the other means of ventilation are ordinarily effective. The various forms of this stove are placed on the market by Clark's Syphon Stove Company, Ltd., 132, Queen Victoria Street, London, E.C.

An Adjustable Stethoscope.

Messrs. Allen and Hanburys have made for Dr. Gordon G. Copeland of Toronto a stethoscope one of the advantages claimed for which is that as the chestpiece is made of aluminium the apparatus is light. The opening which receives the sound waves is exactly twice the capacity of the two tubes leading to the external auditory meatus. The calibre of the instrument is perfectly equal all the way through from beginning to end, no interruption of any kind occurring either where the metal tubes join the tubing or where the tubing joins the chestpiece, owing to the specially constructed outside tapered knife-edge joints.

The chestpiece is made to revolve, so that it is possible to examine the side or back to a very considerable extent without disturbing the patient and without causing the tubes to kink or touch the bed clothes as well as allowing all front parts, even to the sides, to be examined without changing position. The instrument is made portable by having the spring hinged, and the arms can be set up at an angle coinciding with the direction of the auditory meatus. It is claimed for the stethoscope that it is very adaptable and handy in application, and that it gives the highest acoustic efficiency. For children and very emaciated adults a localiser has been devised for use with the instrument, and this embodies the same principles on a smaller scale. Care should be taken that the earpieces fit and are comfortable.

ROYAL MEDICAL BENEVOLENT FUND.

AT the November meeting of the Committee thirty-two cases were considered, and grants amounting to £332 made to twenty-nine of the applicants. Appended is an abstract of the cases relieved.

1. Daughter, aged 39, of late M.D.Edin. Has maintained herself as mother's help, etc., but has been strongly advised to take up maternity nursing, and requires assistance with the expenses of her training. Voted £10.

2. Widow, aged 43, of L.R.C.P., L.R.C.S.Edin. Lost her husband a few months ago after an illness lasting several months, and is left quite unprovided for. Five children, three dependent and the two elder only earning a few shillings a week. Voted £10.

3. Widow, aged 46, of M.R.C.S. Endeavours to support herself by letting lodgings, but cannot quite meet her expenses until her children are self-supporting. Relieved four times, £47. Voted £12.

4. Daughter, aged 36, of late M.R.C.S. Has a post at a small weekly wage at a jeweller's shop, but thinks that if she can learn typewriting she will be able to improve her position. Relieved once, £5. Voted £10.

5. Daughter, aged 84, of late M.D.Glasg. Supported herself for several years by letting lodgings, but is in difficulties owing to the long illness of a sister who recently died. Only income an old age pension. Voted £18.

6. Daughter, aged 47, of L.R.C.P., L.R.C.S.Glasg. Has an income of £22 a year, and hopes to supplement it by teaching, but requires a rest after nursing her mother (recently deceased) for several months. Voted £5.

7. Daughter, aged 46, of L.R.C.P., L.R.C.S.Edin. Has been a nurse at an isolation hospital for twelve years, but has broken down in health, and is ordered a complete rest. Voted £5.

8. Widow, aged 47, of L.R.C.P., L.R.C.S.Irel. Is endeavouring to establish a small boarding-house at a seaside town, but has had a bad season and heavy expenses owing to the serious illness of one of her boys, who is a foundationer at Epsom College. Voted £12 in twelve instalments.

9. Daughter, aged 39, of late M.R.C.S. Is well educated and intelligent, but suffers from chronic retinitis, which compels her to depend upon her mother, whose income is less than £40 a year. Relieved once, £5. Voted £10.

10. Daughter, aged 54, of late M.R.C.S. No income and unable to support herself owing to permanent bad health; slight help from a relation. Relieved four times, £44. Voted £12.

11. Widow, aged 53, of L.S.A. Almost blind and deaf and dependent on a son, who only earns 25s. a week. Relieved seven times, £104. Voted £18.

12. Daughters, aged 62 and 54, of late M.R.C.S. No income; endeavour to support themselves by receiving boarders, but find difficulty in obtaining them, and are both in feeble health. Relieved four times, £64. Voted £18.

13. Widow, aged 76, of M.D. Income less than £1 a week, and asks for a little help towards expenses which are unavoidable on account of ill health and old age. Relieved eight times, £46. Voted £5.

14. Daughter, aged 63, of late M.R.C.S. Supplements a small pension from a charitable society by taking boarders, but finds great difficulty in making both ends meet. Relieved twice, £20. Voted £10.

15. Daughter, aged 68, of late M.R.C.S. Has maintained herself since father's death several years ago by receiving boarders, but now only has one, and is constantly in difficulties. Relieved once, £12. Voted £12.

16. Widow, aged 82, of M.R.C.S. Has a small annuity, but asks for assistance towards unavoidable expenses incurred through an accident. Relieved four times, £35. Voted £5.

17. Widow, aged 66, of L.R.C.P.Edin. Has a small pension from a city company, but finds it insufficient for bare necessities, and is in bad health and crippled by rheumatism. Relieved seven times, £48. Voted £12.

18. Widow, aged 72, of L.R.C.P. Edin. Only income an old age pension; sight failing and health indifferent. Relieved six times, £72. Voted £12.

19. Widow, aged 68, of M.R.C.S. Supported herself for several years after her husband's death, but was obliged to give up her last post owing to ill health. Has an annuity of £10, and is allowed the same amount by a friend. Relieved five times, £54. Voted £9.

20. L.R.C.P., L.R.C.S.Edin. Has been incapacitated for some years by spastic paraplegia, and is dependent on a sister who can ill afford to help. Relieved nine times, £108. Voted £12.

21. Daughters, aged 61 and 56, of late M.R.C.S. No income; slight help from friends and small earnings by needlework. Relieved nine times, £134. Voted £20.

22. Widow, aged 76, of L.R.C.P.Edin. Supplements an income of a few shillings a week by taking lodgers. Children unable to help; health failing. Relieved three times, £36. Voted £12.

23. Daughter, aged 66, of late M.R.C.S. Income £22 a year. Is obliged to ask for assistance owing to increasing infirmities and indifferent health. Relieved five times, £60. Voted £12.

24. Daughter, aged 59, of late L.S.A. No income, but is at present receiving a few shillings a week from a relation; has always been in bad health. Relieved fourteen times, £137. Voted £15.

25. Daughter, aged 68, of late M.R.C.S. Has a pension of £22 a year, and receives occasional slight assistance from friends; is a permanent invalid and at present unable to leave her room. Relieved seven times, £71. Voted £12.

26. Widow, aged 55, of L.F.P.S.Glasgow. No income, and endeavours to maintain herself by taking boarders. Relieved three times, £30. Voted £10.

27. Daughter, aged 60, of late M.R.C.S. Has maintained herself for some years, but is now in difficulties which it is hoped will prove temporary. Relieved once, £10. Voted £10.

28. Daughter, aged 61, of late L.R.C.P.Edin. Is unable to support herself owing to permanent deafness, and is consequently dependent on a sister, who is a mental nurse. Relieved eight times, £92. Voted £12.

29. L.R.C.P., aged 78. Acts as ship's surgeon when able to obtain a post as such, but is at present unemployed. Relieved twice, £24. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

The Experience of Victoria.

At the sixth meeting of the Royal Commission, which was held on December 1st, evidence was given by Dr. Burnett Ham, who from 1909 until this year was head of the Health Department in the State of Victoria, describing the measures which have recently been taken in connexion with venereal diseases in that State. In 1908, at the meeting of the Australasian Medical Congress, the following resolution was passed:

> That syphilis is responsible for an enormous amount of damage to mankind, and that preventive and remedial measures directed against it are worthy of the utmost consideration.

Following upon this resolution, a deputation waited upon the Premier of Victoria in 1909 to urge the consideration of this matter, and as a consequence Dr. Ham was directed to draw up a scheme for the investigation of the subject, and an advisory committee, consisting of the leading medical men and women in Melbourne, was appointed to act with him.

As a first step to ascertain the facts as precisely as possible it was decided to make syphilis a compulsorily notifiable disease in the Melbourne metropolitan area. In actual practice the compulsory nature of the notification was not insisted upon, as no penalties for failure to notify were enforced, but it was felt that unless an official flavour was given to the requirement to notify the response from the medical practitioners would be but small. There was at first some opposition on the part of the medical profession to the proposed notification, but this was to some extent removed when it was made clear that the notification was to be impersonal, that no names were to be given, and that consequently no administrative action could be taken on the notification so far as the patient was concerned. As a matter of fact, during the year in which the notification order was in force only 110 out of the 350 to 400 practitioners in the metropolitan area actually notified cases. Thus the measure adopted was not compulsory notification as ordinarily understood, but rather an experiment made with a view to ascertaining the amount of syphilis in the city. In connexion with the notification arrangements a circular was issued to medical practitioners explaining the kind of cases they were expected to notify, and the doctors were also asked to supply with each notification a sample of the patient's blood for the purpose of testing by the Wassermann reaction.

In the course of a year, 5,500 notifications were made, and an equal number of samples of blood submitted: 3,500 of these notifications were made by private practitioners, 900 by the Melbourne Hospital, and 1,100 by the Eye and Ear Hospital. Of the 5,500 Wassermann tests for syphilis which were carried out, 1,900 gave positive and 400 partial reactions, and it was calculated that this corresponded to a number of syphilitic cases equivalent to 0.5 per cent. of the population of the area; this figure was very much lower than had been anticipated.

An investigation was also carried on at the eye and ear cliniques of Dr. Barrett. All patients presenting themselves during a certain period, irrespective of the disease from which they were suffering, were tested by the Wassermann reaction. The results showed that out of 550 cases, 75, or 13.6 per cent., gave positive or partial reactions. With regard to gonorrhoea, a statement was furnished

to the Advisory Committee by the Women's Hospital, from which it appeared that in the view of the staff at least 50 per cent. of the major operations performed at the hospital were due to gonorrhoea.

The Advisory Committee, after submitting their report to the Government, endeavoured to induce the press to take up the question, and in this they met with a certain amount of success. The National Council of Women were also approached, and they agreed to assist in an educational campaign and to co-operate with any reasonable measures the Government might bring in, provided that there was no legislation on the lines of the Contagious Diseases Acts and that no difference was made as between men and women. The Advisory Committee did not recommend legislation, but they advised the Government to subsidize the provision of wards for the reception of venereal cases in the general hospitals. This recommendation was adopted by the Government, and free beds were provided—24 for males at the Alfred Hospital and 20 for females at the Women's Hospital. The wards were equipped by the Government with the most modern appliances, and in addition a subsidy was made to the Melbourne University to provide for the carrying out of Wassermann tests.

At first there was some difficulty in filling the beds provided, but as it became known that the treatment was in a general ward and that the patients would not be dealt with differently from those in the other wards, a good demand for beds arose. The establishment of a night clinic at the Alfred Hospital also helped to popularize the arrangements.

Dr. Ham thought that the experiments conducted at Melbourne had led to a greater interest in the subject, and that in securing early treatment and early diagnosis they had achieved an important result. A Health Bill was at the present time before the Victorian Legislature, which contained provisions for adequate and gratuitous treatment of patients, for the prohibition of treatment by unqualified persons, and for making the transmission knowingly of venereal diseases a penal offence.

SCIENCE NOTES.

THE action of enzymes in promoting chemical changes is far from being perfectly understood, but the investigations of recent years have shown that a very large number of reactions, especially among the chemical processes of living organisms, are proximately caused by specific ferments or enzymes. In an address given recently at the eleventh International Congress of Pharmacy Professor Emile Bourquelot, of Paris, dealt with the action of enzymes in promoting synthetic changes or the union of two bodies into one of greater complexity, and in this connexion brought forward some previously unpublished work by his colleagues and himself. Enzymes were at one time supposed to be capable only of causing the splitting up of complex bodies into simpler ones—as, for example, the decomposition of sucrose into glucose and fructose under the influence of the enzyme invertase, or of amygdalin into glucose, hydrocyanic acid, and benzaldehyde by the action of emulsin. It was soon recognized, however, that the decomposition induced is of the "reversible" type, and if the products formed are allowed to accumulate in the liquid a point of equilibrium is reached and the decomposition stops, but can be restarted if the decomposition products are removed. Attempts were then made by various chemists to discover a reverse action of enzymes, in which the simpler bodies should be united to form the more complex. The first work in this direction was done in this country by Croft Hill in 1898; one molecule of maltose is split up into two molecules of glucose by the action of the enzyme maltase, and it was the reverse of this change which Croft Hill endeavoured to bring about by the action of maltase on a solution of glucose. Some of the latter disappeared, and there was some evidence of the formation of a biose, which, however, was not maltose, and was named revertose. Since then various other workers have succeeded in proving a synthesizing action of various ferments, but not in producing from its constituents, by the action of an enzyme, the same compound as would be decomposed by that enzyme under other conditions. This is what M. Bourquelot has now succeeded in doing in a number of cases. He explains previous failures by the fact that the maltase, emulsin, or other ferment used is never a pure body, since no means are available at present for separating from one another those ferments which occur in Nature together, as, for example, in yeast. Therefore if, as he believes, each enzyme has a specific property of hydrolyzing or synthesizing one compound, since many bioses can be produced by the combination of two molecules of glucose, each enzyme present would produce the biose for which it was adapted, and the result would be not maltose but a mixture of bioses. Since the enzymes cannot be separated as pure substances, the best plan is to take such conditions that only one can act. The synthetic action is greatly favoured by the presence of excess of one of the constituent compounds; thus in a solution of glucose in excess of methyl alcohol, the enzyme capable of forming methyl-glucoside is in conditions favouring its activity, but enzymes capable of uniting two molecules of glucose together are much less favourably circumstanced, and others cannot function at all. By working in this way methyl-glucoside was prepared and crystallized, and M. Bourquelot and his colleagues have now successfully synthesized a considerable number of glucosides. As evidence that the synthetic and hydrolytic actions are due in any given case to the same enzyme, they record experiments in one of which the complex substance, and in another its hydrolytic products, were acted on by the same (impure) ferment, all conditions of dilution, etc., being the same; when equilibrium was reached the two liquids were of identical composition. Many new glucosides have been synthesized, and the field so opened up is practically unlimited; while an appreciable step has been made towards understanding the nature of enzyme action.

The Friday evening meetings of the Royal Institution will be resumed on January 23rd, when Sir James Dewar will speak on the coming of age of the vacuum flask. Among the lectures announced is one on the mechanics of muscular effort, by Mr. H. S. Hele-Shaw, F.R.S., M.Inst.C.E., and another on the production of neon and helium by electric discharge, by Professor Norman Collie, F.R.S. On February 20th Professor Arthur Keith, Conservator of the Museum of the Royal College of Surgeons of England, will relate the results of an anthropological study of the busts and portraits of Shakespeare and Burns. "The Royal Institution of Great Britain for the Promotion, Diffusion, and Extension of Science and of Useful Knowledge," to give it its full title, was founded by Count Rumford, and constituted by a charter granted by George III in 1800, enlarged and confirmed by an Act of Parliament in 1810. It possesses a library of about 60,000 volumes rich in scientific publications, but including also standard works on literature, art, and antiquarian research. There is a printed catalogue, and the books may be consulted in convenient reading rooms where English and foreign journals, magazines, and reviews may also be seen. The chief glory of the institution is in the remarkable scientific work which has been done in its chemical and physical laboratories by such men as Dr. Thomas Young in optics, by Sir Humphry Davy in chemistry, by Michael Faraday in electro-magnetism, by Tyndall in thermodynamics, by Lord Rayleigh in physics, by Sir James Dewar in the investigation of low temperatures, and by Sir J. J. Thomson on the constitution of matter. The historical collection of the institution contains Davy's first models for his miner's safety lamp and Faraday's electric apparatus, rough and ready in construction, but containing the promise of the extraordinary development of electric theory and its practical applications which the last half-century has witnessed. Young was professor from 1801 to 1803, Davy from 1802 to 1813, and Faraday from 1833 to 1867. The present professors are: in Natural Philosophy, Lord Rayleigh and Sir J. J. Thomson; in Chemistry, Sir James Dewar; in Physiology, Dr. William Bateson, who is also Director of the Horticultural Institution, Merton Park, Surrey, where he is continuing his researches in heredity. The average annual expenditure on experimental research during the last century has been £1,000. The Davy-Faraday Research Laboratory is an affiliated but distinct institution, founded by the late Dr. Ludwig Mond, F.R.S., to provide opportunities and facilities for research to persons who have credentials of scientific training and some experience in

original investigations. The annual subscription to the Royal Institution is five guineas and the entrance fee is of the same amount.

Since the discovery in 1907 by Halberstaedter and von Prowazek of peculiar cell inclusions in the conjunctival epithelium of patients suffering from trachoma, various views have been held as to the nature of these bodies. These inclusion bodies are composed of both minute granules and coarser oval forms imbedded within the cells in a rather indefinite homogeneous matrix. With Giemsa's stain the minute granules stained red and the coarser granules took a blue colour. When scrapings from the conjunctiva of trachomatous patients were introduced into the eye of monkeys a mild conjunctivitis resulted, and similar bodies were found in the epithelial cells; as the conjunctivitis disappeared the inclusion bodies could no longer be found. The authors concluded that there was an etiological relationship between these peculiar bodies and trachoma. This opinion was confirmed by others, but in 1909 the original workers discovered the same appearances in ophthalmia neonatorum, and in the following year Herzog put forward the idea that the so-called trachoma bodies were merely involution forms of the gonococcus. Noguchi, working with Cohen, considered them to be definite pathogenic organisms capable of producing well-defined conditions, and concluded that when they were found in gonorrhoeal conjunctivitis there was a double infection. By others the bodies were held to be degenerated Koch-Weeks bacilli, protozoa, or degeneration forms such as are met with in carcinoma cells. Recently Noguchi and Cohen have returned to the study of the trachoma bodies, and by the use of the Noguchi medium, which has proved to be such a fertile ground for the study of spirochaetes, the virus of rabies, the organisms of poliomyelitis and others, they claim to have cultivated these trachoma bodies. They took scrapings from the surface of the conjunctiva, and inoculated them in sterile ascitic fluid containing a piece of fresh animal tissue under anaërobic conditions. The result was that they were able to obtain cultures from all cases of trachoma in which smear preparations showed the bodies to be present, and from one of three cases of trachoma in which smear preparations were negative; they were absent in all the control cases. The primary cultures contained in addition various other bacteria, but after purification by Noguchi's method pure cultures were obtained of minute coccal bodies in pairs or in masses staining red with Giemsa's solution. The colonies were barely visible to the naked eye. After several generations on anaërobic media the organisms could be grown under aërobic conditions on a glucose-agar medium. In addition to the minute granular forms staining red there were also found in the cultures larger oval forms, separately or in groups, taking a blue colour, and the latter could be observed to break up into the former. The typical appearance of the cell inclusion was obtained—a mass composed of an outer zone of coarse granules and a centre of minute granules. The organisms from a culture take Gram's stain, and are stainable also by carbol fuchsin and gentian violet. So far inoculations of cultures into the eyes of monkeys have been without result.

MOTOR CARS FOR MEDICAL MEN.

Small Cars.

Dr. George Willett (Keynsham, Bristol) writes: In reply to Dr. Gordon Kelly, of Leicester, I beg to say that my statement that a hot-water jacketed induction pipe in a motor engine does conduce to an easy start up in the morning is founded on the following personal observations: On returning from a ten-mile run I took the temperatnre of the radiator water, and found it to be 155° F. The next morning at 9 a.m. I took it again; it was then 55° F., while a bucket of water standing close by as a control registered 52° F. Remembering that petrol begins to boil at 150° F., that it becomes less dense as the temperature rises, and also that my radiator water is 3° F. higher than the control water, I think I am quite justified in making this statement, particularly as the gain of these 3° F. corresponds to a change in the petrol density from 0.731 to 0.721, quite sufficient, in my opinion, to give the easy start up that I experience daily. As regards cylinder cooling, it is well known that pump systems (as in the De Dion) do not absolutely necessitate the radiator being kept quite full, whereas (as in the Singer) the thermo-siphon type of water circulation demands for its success the regular replenishment of the water lost by evaporation.

THE RADIOTHERAPY OF CARCINOMA UTERI.

[From our Special Correspondent in Berlin.]

The eagerly awaited and long-promised lecture by Professor Bumm on his results with radium in the treatment of cancer of the uterus was delivered to a crowded audience at a meeting of the Berliner medizinische Gesellschaft on December 3rd. It will be in the memory of my readers that Professor Döderlein's pronouncement this summer at the Gynaecological Congress at Halle was reported by me in full in these columns, and that it, and the discussion which followed, were on the whole decidedly optimistic in tone. It resulted, at any rate, in a great effort on the part of medical authorities throughout Germany to secure funds for the purchase of as much of the precious material as they could secure for the treatment both of hospital and private cases, and, as always where there is a large demand, in an artificial increase in the prices charged, due to the commercial speculators.

Professor Bumm began by recalling the favourable report he had made in the summer on twelve cases treated by radiotherapy. Further experience had afforded him no grounds to contradict what he then said concerning the local action of radium. There was nothing in the whole realm of the medical armamentarium that approached it in its power to produce shrinking of the primary growth together with inhibition of discharge and haemorrhage—effects that usually became apparent in from ten to twelve days. In favourable cases epithelialization of the tumours then took place, and the nodules diminished in size and ultimately vanished. Microscopic examination in such cases showed a disappearance of malignant mitoses, together with disruption of nuclei and protoplasm and a tendency in the malignant cells to loss of the power of staining. Ultimately only fibrous tissue with here and there the débris of carcinomatous tissue was found embedded in it. As he had pointed out in his previous short paper, successful results could not be expected by the destruction of a local growth only; the surrounding connective tissue always contained masses of carcinomatous cells, the selective destruction of which, without injury to the normal structures in the pelvic fascia, did not, as a matter of fact, occur. Very little of this destructive action on connective and other normal tissues had hitherto been noted or made public, for it was about six months to a year after the exposure that the evil results of this action manifested themselves. It was true that malignant tissue was more susceptible than the normal, but in cases in which long acting and deeply penetrating doses had been given the muscular and vascular structures had been found to undergo fibrosis, followed by hyaline degeneration—a stage of necrobiosis not far removed from real necrosis *en masse*. Such cases had presented themselves a year after exposure with nodules surrounding the body of the uterus which were not, as at first supposed, malignant recurrences, but hyaline degeneration bundles which might, and in one of his cases had actually gone on to rectal stricture a year later.

Professor Bumm went on to say that his present report was based on the treatment of 108 cases; 15 of these had so far recurred. He demonstrated casts of uteri which had been surgically removed after a preliminary radium treatment. It was clearly seen that, as far as the local growth was concerned, this had been entirely destroyed, but that cancer cell nests at a distance of 4 to 10 cm. had survived, in part at any rate, the destructive action on the primary focus. Generally speaking, the older the subject the better the prognosis, although this, of course, depended also on the stage of the disease. In 10 cases, by a preliminary irradiation, he had rendered an operation possible and had apparently eradicated the disease, for no recurrence had hitherto manifested itself.

Professor Bumm detailed his methods at some length. It was, he said, a serious mistake to imagine that the greater the dosage the better the ultimate result. He found himself constantly diminishing the weight of the radium employed, and he was now in the habit of using not more than 50 to 60 mg. at a time. Large doses were liable to produce fever; 300 mg. could in five or six hours produce a temperature of 106° F., which might continue with intermissions for days; 500 mg. at a dose were in

his opinion directly dangerous to life. He had no doubt that it was best from every point of view to use weak doses and increase the time of application. Thick lead filters were also in his opinion dangerous expedients, for the thicker they were the more secondary rays were produced, and it was just these secondary rays that ought most to be avoided, for they, he believed, were responsible for the delayed ill effects on normal tissues. He had found aluminium or tin filters most satisfactory, and considered they should be used, not in direct contact with the growth, but a few centimetres distant from it. He had lately been employing celluloid or horn capsules surrounded by gutta-percha.

With regard to the comparative value of radium and Roentgen rays, Professor Bumm reminded his hearers that there was a very similar struggle now going on between the adherents of electricity and gas, and as fast as the one progressed the efforts of the other party to overtake its rival became the more active. *X* rays had the great advantage that they could be applied without danger whenever an intensely penetrating action was desired, although their action was less rapid than that of radium. He cited 8 cases of cervical carcinoma which were cured without any surgical interference in his clinic, and stated that he was able to control the radiation of the abdomen by the effects that were observed on the portio vaginalis uteri. He came to the important conclusion that radium, mesothorium, and Roentgen therapy were all equally valuable therapeutic agents, and that he who possessed no radium was able to obtain just as good results with his *x*-ray treatment properly applied, as the former's more wealthy possessor.

His assistant, Dr. Warnekros, then demonstrated the Roentgen apparatus used in Bumm's clinic.

THE INSURANCE DIFFICULTY IN GERMANY.

THE time for the new Imperial Insurance Order to take effect is drawing near, and still no settlement is in sight. During the past week the Imperial Home Office has offered its services to attempt to bring about a settlement between the two parties. This offer of intermediation by the only agent that could hope to attain a satisfactory result has been refused by the Works' Clubs' Federation (Betriebskrankenkassenverband), which is the most bitter opponent of the doctors, and is now acting as spokesman for all the larger insurance societies' federations.

Dr. Mugdan, a member of the Reichstag, calculates that since the new insurance will sweep a very large number of hitherto uninsured persons into its net, the number of income-tax paying persons who will not in future obtain medical attendance through the insurance scheme will certainly not exceed 5 per cent., and may perhaps fall far short of this. He deduces from this, that unless the doctors succeed in obtaining free choice of doctor, a considerable proportion of the profession will be excluded from insurance service, and therefore from making a living as medical practitioners. A few of the more fortunate will attend the richer 5 per cent., but what will become of those who up to the present have had middle-class practices? He deplores this prospect not only on account of the effect it would have on the earning possibilities of many doctors but as a serious danger to German medicine, for if the profession is robbed of its independence, if thousands of doctors are prevented from gaining any experience of practice, the effect will be marked in time of epidemics, in the combating of national scourges, and also in the time of war. German medicine would, he believes, deteriorate as a science, for the general practitioner plays a very important part in maintaining the high standard attained in Germany.

The objections which a former Bavarian Minister of Education, Dr. von Landmann, has raised to the terms of the doctors' proposals, which were refused by the insurance societies, are practically two in number. The first is the well-worn argument that the societies could not agree to a compulsory form of contract or to any intimidation of individual members of the medical profession by the doctors' organizations. The terms, or rather principles, proposed by the doctors' organization did not involve any such compulsion; this was in fact directly prevented by the admission of the rights of medical men who did not belong to any medical organization, provided they accepted the general principles which it was hoped would lead to a peaceful and workable settlement. The second objection was that if the contracts were dictated by the medical organizations, the societies would have no guarantees that the medical practitioners undertaking service would feel themselves bound by them. Dr. Mugdan argues that the same objection would apply if the medical practitioners entered into contracts directly with the societies, and the guarantee would be rather less that the doctors would respect the terms of their contracts, since the doctors' unions would be able to exercise control over their members, and since a breach of contract would damage the reputation of the medical society concerned.

The workmen's societies are advertising in the lay press all over the country for medical practitioners willing to take service under the Insurance Act for fairly high salaries. In some cases medical men belonging to the medical organizations are openly told that they are not eligible. In others the advertisements are so worded that it does not appear at first sight that the advertisers are really insurance societies. Many of the statements published, both in the advertisements and in the annual reports wander appreciably from fact, and it is fairly obvious that an attempt is being made to blacken the case for the doctors in the sight of the public. These conditions are especially marked in Prussia, while in Würtemberg and Bavaria the societies have recognized that these tactics are useless and have accepted the situation after the Governments have intervened.

Berlin.

The Berlin Local Insurance Society during the recent negotiations maintained that its financial position would not allow it to pay the doctors' capitation fee of more than 5 marks. A writer in the *Muenchener medicinische Wochenschrift* of December 3rd states that the total income of the society last year was 7,918,688 marks. Of this sum, 2,172,306 marks, or something approaching one-third was put to capital account and reserve fund. The cost of administration amounted to 573,092 marks, while the payment for "pure medical attendance" was only 571,878 marks and for drugs 629,000 marks. The sum expended on "pure medical attendance" include the honoraria for the advisory staff, the very persons who it is now alleged have succeeded in keeping the capitation fee down to a low level; the fees paid for the control of prescriptions written by the medical officers alone amounted to close on 6,000 marks. Another set of fees for the control of the dentists' opinions that the filling of teeth was necessary amounted to over 9,000 marks. Apart from the moneys paid to the medical officers, the sum expended on "pure medical attendance" included extra service fees to outside practitioners, payment for massage, dental fees, and the charges for institutional treatment. The expenditure on the most important function of the society, namely, the provision of regular medical attendance, would appear to be absurdly low in comparison to the working expenses, the cost of medicines and contribution to the sinking fund.

The significance of these figures is increased when the recent history of insurance practice in Berlin is understood and when the attitude of the specialists who undertake work for the societies is considered. That those medical officers who endeavour to perform their duty to their patients and to the community by giving their best energies and skill to their insured patients are likely to fare badly in Berlin appears from a comparison with the arrangements made in Baden; there a capitation fee of 6 marks and a family capitation fee of 18 marks will be paid, and the extras will be calculated in accordance with the local scale of fees for professional service.

The *Berliner Aerzte Correspondent* has published a report of a meeting of the Society of Berlin Specialists held on November 20th, and has reproduced a circular this society sent to its members. From both it is clear that the specialists are endeavouring to place insurance practice on a more satisfactory footing in the capital of the German Empire. The conditions of acceptable service are laid down, and views are expressed as to the relation of the specialist to the medical practitioner doing insurance work for the societies. The right to protect their own interests on the part of the specialists and the necessity to do so are freely recognized by the profession

at large, and the effect of the open discussion of past conditions, taken with the belief that the greater number of medical officers of the societies have only served the purpose of some of the advisory officers and have been their unconscious and unwilling tools, all make for the consolidation of the profession. The common danger is causing the disappearance of jealousies and difficulties which have split the profession in Berlin in recent years, and its members are now uniting more firmly and more boldly than ever before to work for the common good.

Insurance Statistics of Bavaria.

From the statistics officially published for the year 1912 it appears that in Bavaria there are 4,630 insurance societies, with some 1,234,325 members. During the year 40.7 per cent. of the insured declared themselves sick. The average duration of the sickness was 8.425 days for each insured person, while the average duration of each case of illness was 20.7 days. The mortality was 0.71 per cent. The societies expended 31.1 millions on sick pay and medical attendance, 1 million marks were absorbed by working expenses, and 8.8 million marks were tabulated under additional expenses. In addition 18.3 million marks were put to the reserve fund. It appears that the reserve fund got 42.5 per cent., that sickness cost 72.3 per cent., administration 2.3 per cent., and that other expenditure amounted to 20.4 per cent. of the total income. In Berlin the working expenses exceeded 7.2 per cent., while the reserve fund claimed 27.4 per cent. The question is asked whether the time has not now come, so far as Germany is concerned, to stop this enormous annual increase of the reserve funds. It is admitted that the State would be neglecting its duty to the community if it did not make provision for the reasonable financial stability of its great insurance societies, but unduly swollen reserves merely give the societies the power of money to drive bargains to the detriment of the weaker elements in the social insurance scheme.

LITERARY NOTES.

A NEW periodical entitled *Archiv für experimentelle und klinische Phonetik* has recently appeared in Berlin. It is a supplement to Passow's and Schaefer's *Beiträgen*, and is published by S. Karger and edited by Professor J. Katzenstein.

The *Chronique Médicale* announces the death of Dr. Legué, one of the leading authorities in France on the *grand siècle* in its medical aspects. He took his doctor's degree in 1873 with a thesis entitled *Documents pour servir à l'histoire médicale des Ursulines de Loudun*, which was developed later into two works, *Urbain Grandier* and *Soeur Jeanne des Anges*. The latter was written in collaboration with Gilles de la Tourette. The thesis and the books together form an important study from the medical point of view of demoniacal possession as it was regarded in the seventeenth century. In another book, *Médecins et Empoisonneurs*, Legué dealt with the famous epidemic of poisoning which made such a sensation in the reign of Louis XIV, and which is known in French history as *L'Affaire des Poisons*. He followed up the subject in another book bearing the sinister title *La Messe Noire*, a sort of historical romance in which the sorcery and cognate superstitions which prevailed in the same period are described and discussed. The writings of Legué are a valuable contribution to historical pathology, that modern science which seeks for the causes of events in the physical constitution and diseases of the actors in the dramas of history. Dr. Cabanès, the editor of *La Chronique Médicale*, devotes a sympathetic note to the memory of Legué, a man with whom friendship was fostered by consonancy of studies.

The November number of *L'Hygiène* contains a sympathetic appreciation of Professor Antonin Poncet of Lyons, an obituary notice of whom appeared in the BRITISH MEDICAL JOURNAL of November 22nd, 1913; an article on the therapeutic use of hypnotism by Dr. Ch. Burlureaux, in which the opinion is expressed that much further study is required before the method is given an "official" place in the treatment of disease; and a note on the suggestibility of neurasthenics (moral treatment) by Dr. Maurice de Fleury. The question whether water drinkers are predisposed to appendicitis is discussed by Dr. H. Meurisse. The question is left undecided, but the conclusion is that "for the moment the point to be borne in mind is that our alimentary habits should be based on a regular intestinal hygiene, which the custom of ages has consecrated under the form of fermented drinks—wine, cider, beer, sour milk—the antiseptic properties of which no longer need to be demonstrated." M. Carlos Fischer writes on the cinematograph as a means of hygienic teaching. M. André Mesureur contributes an article on the housing of nurses, giving as examples the arrangements at Guy's Hospital, the London and St. Bartholomew's. The periodical is as usual excellently illustrated.

All children dislike medicine, and those in charge of a nursery often have need of all their tact and patience when occasion arises for the administration of a necessary dose. Some useful advice as to the management of sick children is given by Dr. J. R. R. Trist in the November number of *The Child*, to which he has contributed a short article embodying his views on their treatment and the methods he himself employs to gain the confidence of his little patients. As regards the actual taking of medicine, Dr. Trist declares that "most very young children have to be 'drenched'; do it quickly, firmly, gently." With older children, however, "explanations and reasoning have their place, and an age will be reached when either an experience of past healing, an intelligent trust, or a spirit of courage will put an end to all need of force." In these circumstances it is obvious that much depends upon the judicious handling of the child, and here an intelligent and well-trained nurse can often be of great assistance to the doctor and parents. The idea of training educated women as children's nurses is becoming increasingly popular; and the November number of *The Child* contains an interesting account by Mr. Bransby Yule, of St. Mary's Nursery College at Hampstead, one of the best known training schools where women of good birth and education can go through a regular course of instruction in all that appertains to the care of children. The same number of this valuable periodical also contains a most interesting article by Dr. Harry Campbell on "Diet and Child Welfare," and a short account by Sir John Kirk, M.P., of the magnificent salvage work carried on by the ragged schools during the last fifty years amongst the little derelicts of the London slums.

Industrial Lead Poisoning is the title of a new work by Sir Thomas Oliver to be published early in the new year by H. K. Lewis. The book, which is an elaboration of the lecture recently delivered at the Royal Institute of Public Health, is intended to be a book for the medical practitioner, certifying factory surgeon, and employer. Mr. Lewis also announces a reprint of the collection of essays and addresses by Sir William Osler, issued under the title of *Aequanimitas*, which has already gone through three editions, and has been out of print for some little time. Other new editions are the second of Dr. Lewis Jones's book on *Ionic Medication*, the fifth of Dr. Dudley Buxton's popular handbook on *Anaesthetics*. This has been almost entirely rewritten, and will appear in the demy octavo form in the *Practical Series;* and a fifth edition of Mr. Albert Taylor's *Sanitary Inspector's Handbook*, also considerably enlarged. Two new books are Dr. Mildred Burgess's *Health*, based on the County Council's Syllabus of Lectures, and a small work by Dr. T. B. Scott, *The Road to a Healthy Old Age*.

In old days the toad played a considerable part in therapeutics and also in poisoning. A correspondent writing to the *Glasgow Herald* (December 6th) under the pseudonym "Beta" sends an extract from *El Mercurio de Madrid*, May, 1777, in which a "cure" for cancer is given: "The skin of a toad pulled off and applied to the sore cures the cancer effectually. The toads are most easily found, and their skins have the greatest virtue in the dog days. For the winter you may dry their skins and reduce them to powder, and this spread on the cancer will also cure it. This remedy was given by a beggar to the steward of a gentleman somewhere not far from Bordeaux." The idea probably was that the toad, being a loathsome animal, had a natural power of "drawing out" the poison of a loathsome disease. But the evidence of the "cure" is vaguer even than those adduced in favour of many secret remedies of the present day.

British Medical Journal.

SATURDAY, DECEMBER 13TH, 1913.

THE SUBSCRIPTION TO THE ASSOCIATION.

Two matters affecting the finances of the Association were dealt with at the meetings held last week in London. One was an adjustment of the Memorandum of the Association, long overdue, designed to correct a fault in the original draft, which was held to make it doubtful whether the Association was entitled to borrow money on debentures. This, therefore, was a comparatively simple matter of business, and its adjustment will mean an economy in expenditure the exact amount of which will depend upon the ruling bank rate. The other matter—the proposal to increase the subscription to the Association—was of a more controversial nature. As was pointed out in the report of the Council on the subject (SUPPLEMENT, November 1st, p. 359), the financial position has for many years caused anxiety to the Council and to the Treasurer, and to many members of the Association who are most actively interested in its welfare. Ten or twelve years ago, before the last reorganization of the Association, it had accumulated a substantial reserve of £92,000. Members of the Association then decided greatly to increase their political activities. They called into existence a number of standing committees, and a Medical Secretary with a clerical staff was appointed. The work of the committees steadily increased, and it was found necessary to give the Medical Secretary the assistance first of an assistant and then of a deputy, and to increase the clerical staff. The changes had a two-fold effect upon the financial position of the Association: they added materially to its annual expenditure and made it absolutely essential that larger office accommodation should be provided for the committees and for the staff of the new department. The matter was very fully considered at the time, and it was decided that the wisest course was to build new central offices on the freehold site which the Association had acquired in the Strand.

The new departure made by the Association in thus increasing its activities as the leading medico-political organization in the country made a strong appeal to the profession, and an important accession of members ensued, with a corresponding increase in its income. Unfortunately, however, it was found that the expenditure tended steadily to increase at a rate greater than the increase of income. The margin between income and expenditure became dangerously low, and rendered it impossible to continue to add to the reserve fund at the rate which had previously prevailed. Then came the Government Insurance scheme. As originally introduced it would have placed the profession in a position of helpless servitude, while offering remuneration which was in amount little, if at all, greater than the contract rates of the friendly societies. Against these rates strong protests had been made by the profession, on the ground that they were unremunerative, and therefore uneconomic.

The deficit of the Association in 1912 was £16,000; it was met by a special vote of £7,000 from the Central Insurance Defence Fund, and by trenching on the reserves to the extent of £9,000. A large part of the increase in expenditure in 1912 was due to the acute stage of the controversy with regard to the Insurance Act. The hope had previously been expressed that by the practice of rigid economies the balance might be adjusted without any diminution of the activities of the Association, and without an increase in the subscription. The diligent work of two special financial committees and the unsleeping vigilance of the Treasurer have not been without result, but their efforts to obtain a satisfactory balance between income and expenditure in this way have been frustrated by political events and by the demands of members expressed in the Divisions and through the Representative Body for yet more efficient and extensive organization. Moreover, the fact had to be faced that the controversy with regard to the Insurance scheme was by no means over; indeed, many of those who have given most attention to the subject believe that it is only beginning, and in this opinion we entirely concur. To take one point alone: we have to remember that within the next two years the whole subject of the special parliamentary grant, by which the rate of remuneration of the doctors in respect of the services they give under the Insurance Act was increased to the amount now available, will come up for review. The Chancellor of the Exchequer gave an undertaking that the grant should be continued for three years, and it is possible, if not probable, that when this period is about to expire, pressure will be brought to bear on a perhaps not unwilling Government to extend the medical benefit under the Insurance Act to the dependants of insured persons. It is not uncharitable to suppose that the renewal, abolition, or diminution of the special parliamentary grant may be used as an instrument for bargaining. This is only one reason, though a strong reason, why the profession must consolidate and extend its organization for collective action.

By "the profession" we mean literally all medical men and women engaged in clinical practice, those who are on a panel and those who are not, general practitioners and consultants, operating surgeons, and specialists in all departments. In some respects Germany has gone further than Great Britain, and in the crisis brought about by the new extending and amending legislation about to come into force in the German empire, teachers, specialists, and practitioners of all kinds and grades are involved. All are finding the necessity for an organization of the whole profession which, while maintaining the profession's high ideals of scientific attainment and social service, shall safeguard and, if necessary, fight for its material interests.

This country already possesses in the British Medical Association a body which can speak in the name of the whole profession; it is the only body that can so speak. It must maintain and extend its activities, but to say this is tantamount to saying that it must have a larger assured income. It was arguments such as these which weighed with the Annual Representative Meeting last July, with the Divisions which have since met to consider the subject and have decided in favour of an increase, and with the Special Representative Meeting which on December 4th decided by more than the requisite two-thirds majority that the subscription ought to be increased by

17s. a year—that is to say, from 25s. to 42s. Compared with other organizations, both medical and trade union, the enhanced subscription to the Association is extremely modest; a speaker last week said that it was equivalent to a little over a farthing a day, and suggested that the profession should practise a year of self-denial. This suggestion errs seriously on the side of exaggeration, unless he referred to some such act of self-denial as that involved by a smoker abstaining from one cigarette a day, or by a golfer being a little more careful in the purchase or the chipping of new balls.

The simple fact is that the Association has been attempting to do too much in return for the subscription it has received, and an annual subscription of two guineas, already paid by many of our brother members in the dominions beyond the seas, remains below that cheerfully paid to many medical organizations which attempt to achieve far less.

The other business affecting the financial affairs of the Association done last week was transacted at an Extraordinary General Meeting held on December 5th to carry out a decision reached at Brighton last July. The action of the Association is governed and limited by its memorandum of association registered under the Companies Acts. For a good many years past it has been found that the Association is hampered by the provisions of the memorandum, and many proposals for extension have been considered from time to time, but for various reasons have not been found feasible. It has been decided to limit the extension of the memorandum, but to provide that it shall include power to borrow money on mortgage or otherwise, an extension to which, as the Solicitor ascertained, the Board of Trade (to the jurisdiction of which the Association, as a company registered not for profit, is subject) would raise no objection. At the present time, when the Association requires to raise money for any purpose, such as the erection of its present offices, it is compelled to do so by loan from the bank, paying the bank rate of interest prevailing at the time. This rate, as is well known, fluctuates, and it has been necessary to pay from 4 to 7 per cent. at various times; an increase in the bank rate of 1 per cent. increases the interest paid by the Association in the proportion of about £400 a year. Careful investigation of the old clause by the legal advisers showed that its language was not well conceived, and was open to many constructions by legal minds. The principle of the alteration of the memorandum is to afford the Association greater elasticity in the manner in which it seeks to obtain the objects for which it exists. The Board of Trade insisted upon the proviso that the Association should not support with its funds any object or endeavour to impose on or procure to be observed by its members or others any regulation, restriction, or condition which, if an object of the Association, would make it a trade union. It appears that a clause of this nature is now always required by the Board of Trade in respect of bodies similar in nature to the Association, and would have been imposed when the memorandum was first made had it been passed by the Board a few months later than it was, the necessity for the requirement having been recognized shortly afterwards. The alteration of the memorandum was unanimously approved by the Extraordinary General Meeting, and the further meeting required by the Companies Acts to confirm this decision will be held on Tuesday, December 23rd, at the offices of the Association.

THE CAMBRIDGE RESEARCH HOSPITAL.

FOR several years past we have from time to time called attention to the work of the Cambridge Research Hospital.[1] Descriptions of the hospital itself, with illustrations, were published in the BRITISH MEDICAL JOURNAL of April 1st, 1911 (p. 764), and June 1st, 1912 (p. 1246). It may be recalled that the hospital was founded for the study of chronic disabling diseases under the auspices of a Committee which includes Sir Clifford Allbutt, Sir William Osler, Sir William Church, Sir Richard Douglas Powell, Sir Henry Morris, Sir William Watson Cheyne, and the Master of Downing (Professor Howard Marsh). So far the object of research has been rheumatoid arthritis, and in the paper by Mr. Strangeways, Director of the Hospital, which is published in this week's issue (p. 1529), there will be found an account of the work done at the hospital in that province. Mr. Strangeways briefly traces the history of the institution since it was opened in a small private house in 1906 to its development into a hospital well equipped for the treatment of patients and for research in 1912. The lines of work which are now being pursued and the direction in which it may profitably be expanded are indicated.

How exhaustively the disease has been investigated under every aspect and from almost every point of view may be gathered from the papers that have been published in the *Bulletin* of the Committee for the Study of Special Diseases. The research has included pathological changes in bones of ancient Egyptians, and the etiology, family history, symptoms and physical signs, prognosis and diagnosis of the disease, have been closely studied. The search light of the *x* ray has been thrown on arthritic joints, and the morbid anatomy of such joints has been studied by *post-mortem* examination, by dissection of preserved specimens in the laboratory, and by microscopic methods; the condition of the spinal cord has been investigated; bacteriological examinations of the blood, the joint fluids and various secretions have been made; and the metabolism of arthritic patients has been studied. The positive results that have been obtained in these various fields of inquiry may at first sight seem to be incommensurate with the labour they have entailed; but in all pioneering work such as this the ground must first be cleared. It is a difficult and often a disheartening task, but one that had to be done before definite progress could be made.

One result which the investigations have clearly brought out is that rheumatoid arthritis in many cases spontaneously comes to a standstill, and it is encouraging to learn that although such arrest in the progress of the disease may be long delayed, there is ground to hope that it will occur, even in the most progressive cases. It has to be borne in mind, however, that even when the disease has ceased to be active in the joint, the crippling and deformity caused by it may increase. This is due to the loss of the habit of movement; if by any means the dormant energy of the muscles can be stirred into action, the joint will regain power to a considerable degree. This, as we gather, is mainly the effect of suggestion. If the feeling that moved the rowers in the Virgilian race, *possunt quia posse videntur*, can be aroused in the patients, they will become capable of efforts which, as they become stronger,

[1] See particularly BRITISH MEDICAL JOURNAL, November 16th, 1907, p. 1552; December 12th, 1908, p. 1764; February 26th, 1910, p. 522; October 28th, 1911, p. 1120.

will lead to correspondingly greater improvement. It is a striking proof of the power of the human mind on the body that a man who can be brought to believe that he can use a disorganized joint will, by the power of muscles reawakened by hope, be actually able to walk. This fact seems to explain the success of certain practitioners by the application of treatment which fails when applied by others with less faculty for inspiring confidence.

Nearly every known form of treatment has been tried at the Research Hospital; but, though the therapeutic experiments have been on a large scale, little as to their results has been published because the evidence is not yet sufficient to justify positive conclusions. We strongly commend this scientific caution, as nothing has been a greater hindrance to the advance of scientific medicine than the premature publication of "cures" for this or that disease.

As Mr. Strangeways well says, the treatment of arthritis should be based on a knowledge of what has occurred and is occurring in the diseased joint. The work done at the Research Hospital shows how unfounded is the impression, still stamped on the minds of many of the profession, that the morbid anatomy of rheumatoid arthritis has been worked out. The better the exact condition of the diseased joints is understood the more likely is the practitioner to be able to treat the disease successfully. The elaborate investigations by means of the *x* ray, by *post-mortem* examinations, and by study of the histological changes to which reference has been made, have thrown much new light on the local manifestations of the disease. On the other hand, the study of the metabolism in arthritic patients affords help in treatment, if only in the direction of preventing the administration of useless remedies and in giving some guidance in the matter of diet.

Two new lines of investigation are suggested by Mr. Strangeways—the relation of climate and soil to disease in general, and rheumatoid arthritis in particular; and the operative treatment of arthritic joints. There is some general knowledge of the effects of climate, but most of it is vague and some of it perhaps fanciful. Patients who are able to do so migrate from place to place in search of a suitable climate, but in many cases the change of sky is not followed by any corresponding change in their joints. A scientific investigation of this question would probably save patients great inconvenience and doctors not a little perplexity, and we refer readers to the scheme propounded by Mr. Strangeways. The suggestion of operative treatment for arthritic joints opens up a new province for surgery, and we need not discuss it further than to say that we hope the money needed to build an operating theatre in the Research Hospital will in a short time be forthcoming.

A word must be said on the conduct of the hospital. The expenditure averages only £500 a year, and of this amount a considerable proportion is contributed by members of the medical profession. General practitioners throughout the country have given firm support to the hospital since its foundation, not only by subscriptions and gifts of money, but by what is an even more striking proof of their confidence in the work and the spirit in which it is conducted, ready assistance in recording cases and willingness to allow free access to patients for purposes of examination. Throughout its existence the Research Hospital has kept in close touch with the profession; the staff has not stood aloof on the cold Olympian heights of pure science; throughout their investigations they have borne in mind that the interest of the patient always comes first. Therefore patients go willingly to the hospital and submit to be made the subjects of investigation. This is the only way in which a "research hospital" can be successfully conducted. We are sure the whole profession will agree with us in offering hearty thanks to the workers who have devoted so much self-sacrifice and labour to a task, to a large extent thankless, which has been designed to promote the welfare of mankind and the advancement of the science of medicine.

THE PROFESSION AND FRIENDLY SOCIETIES IN NEW ZEALAND.

AT a conference of the New Zealand Branch of the British Medical Association, held at Wanganui last February, a draft common form of agreement between a medical officer and a friendly society was drawn up. This was circulated to the Divisions of the Branch, and a subcommittee, having considered the recommendations made by the Divisions, redrafted the agreement and a copy was thereupon sent on October 1st to every member of the Branch for perusal and comment. When the form of agreement most generally suitable has been decided upon the council of the Branch intends to communicate with the heads of the various orders and friendly societies in New Zealand with a view to the universal adoption of the agreement throughout the Dominion, in this way avoiding the necessity for individual lodge surgeons negotiating separately with their special lodges. The scheme is designed to make provision for medical attendance on recognized members of friendly societies and their dependants in return for a fee paid quarterly. There would be a fee for examination on admission and a smaller fee for re-examination if membership were allowed to lapse. The recognized dependants of a member would be his wife, his children up to the age of 16, and the widowed mother of an unmarried member if resident with and dependent upon him; all these classes of persons would be accepted if passed by the medical officer. Widows and children (up to the age of 16 years) of deceased members, if paying full rates, would be eligible. There would be a special mileage fee, and also special fees for night visits, anaesthetics, surgical operations requiring an anaesthetic, and for work usually performed by specialists. Further, there would be a separate fee for attendance on confinements, premature birth, or miscarriage.

VITAMINES AND MALIGNANCY.

THAT the growth of young animals may be retarded or absolutely arrested by the omission of certain constituents of normal diet has several times been pointed out by Gowland Hopkins. In a discussion on Diseases due to Deficiencies in Diet, at the Royal Society of Medicine recently, he referred to certain experiments of his own on the feeding of young rats—animals which are not prone to scurvy or beri-beri—with a diet of purified materials from which certain unknown materials of minute amount were abstracted by treatment with alcohol. Growth absolutely ceased under these conditions, but was resumed again when small quantities of milk or fresh tissue extracts were added or when the alcoholic extractives of the diet were restored. A dietary having thus been obtained on which the young animals could exist, though with retarded growth, he tried the effect on the growth of transplanted neoplasms, using animals injected with the Jensen rat sarcoma, and dividing the injected animals into two series, one set fed on the purified diet and the other on bread and milk. Tumours resulted in both sets, but the average weight of tumour tissue in the former case was only one-fourth of that in the latter. His conclusion is that neoplasms need for their growth certain unknown substances which they acquire less readily from the tissues than from

the food supply of the host. It is a matter of common experience amongst those who have worked with transplantable tumours of animals that the general health of the animals has a great effect on the success of the grafts; when the animals are in poor condition from any cause the graft will almost surely fail. This is in marked contrast to what occurs on the inoculation of certain granulomatous conditions which have been mistaken for malignant tumours, for here the poorer the condition of the animal the greater the chance of success of the transplantation generally speaking. The unknown substances necessary to growth of young animals have been called "growth-vitamines" by Casimir Funk, who in the same discussion briefly, and in more detail in *Hoppe-Seyler's Zeitschrift* (December 3rd, 1913), referred to similar experiments on chickens. The vitamine-free diet chosen in this case was red, unpolished rice, on which a large number of the animals subsisted for several weeks. This stopped growth without producing beri-beri. When yeast was added to the dietary growth was resumed. A less marked effect in the same direction was produced by the addition of the dried material of the Rous fowl sarcoma. The detailed results of experiments in which the treated and control animals were inoculated with the Rous sarcoma are promised in a later communication, and Funk remarks that the influence of the injection is "not unfavourable" to the general growth of the animal. The experiments are certainly interesting from the point of view of cancer research, but it is a very debatable point whether the Rous tumour should be considered a malignant neoplasm at all. In contrast to the tumours known certainly to be malignant, it is transmissible not only by tissue grafts, but also by injections of expressed virus, and too little is known of the granulomata of birds in general to allow it to be concluded that the Rous tumour is not an infective granuloma; until that point is settled conclusions drawn from experiments with it may only lead further into the wilderness.

THE VACCINE OF CONSTIPATION.

AT the present time, when the quietus of so many diseases is made with a bare bodkin, it is not surprising to learn that a vaccine for constipation has been discovered. If this be true, a large proportion of the philanthropic persons who advertise aperients will find their occupation gone. The hypodermic needle will have conquered the enema syringe which so long was one of the chief symbols of medical art. We do not, of course, guarantee the truth of the announcement; we only give it for what it is worth. No details as to the composition or mode of preparation of the new vaccine are yet forthcoming. We are not even able to supply to an eagerly expectant public the name of the ingenious inventor, for it is unkindly suppressed by the journal from which we get the information. All we can learn about it is contained in an extract of the *Journal du Lot* for October 3rd, which is quoted in the *Journal de Médecine de Bordeaux* of December 7th: "On Tuesday on the arrival of the express from Bordeaux, about 100 doctors, pharmacists, and veterinarians, crowded the station platform to greet Dr. ——— of Bordeaux and to congratulate him on his beautiful discovery of the vaccine of constipation. Hurriedly the eminent president of the International Cancer Society amiably shook hands with everybody, gave a few explanations as to his discovery, and hurried off to the Hotel Capoul. To all he demonstrated how simple was the application of the vaccine." It is rare, indeed, he said, that a single vaccination does not suffice to cure for the whole of life. In the evening at eight o'clock the illustrious scientist was entertained at a banquet. A young girl came to offer him a magnificent bouquet of flowers and laurels. Modestly the doctor then expounded in detail his recent discoveries, his theory of the colloidal ferments, his personal views on the cure of tuberculosis and cancer. "Finally, gentlemen, and this is a piece of good news," he said, "you may say to your patients that we can now cure in ten minutes the most acute gonorrhœa and the most obstinate gleet." What the body here called the International Cancer Society may be, and how it comes about that its "eminent president" appears mainly to occupy himself with the cure of constipation and gonorrhœa, we are unable to say. Another communication purporting to be an interview with the same oracle of medicine is taken from a local journal printed at Toulouse. He is there reported to have said: "You must understand that my vaccine cures for the whole of life constipation of every kind, even if it be of twenty years' standing, provided there is no mechanical obstacle, such as cancer, volvulus, or displacement of the uterus." But greater things are to come, for "My friends Ehrlich, Wassermann, and I are all three hot at this moment on the track of a cure for cancer and tuberculosis, not by a serum, but by a chemical salt, akin to '606.' You know, of course, that I am a strong advocate of '606,' in injection naturally. By the method which I discovered a year ago the injections last half a minute, are never painful, and their efficacy is trebled." We hope Ehrlich and Wassermann will duly appreciate the honour of being associated with the discoverer of the vaccine of constipation. Moralizing on the greatness of his own discoveries and on the folly of mankind, the learned doctor went on to say: "How sad it is to see people foolish enough to go to quacks! And the poor fools who take '606' in pills! And to think that we can cure old-standing gleets in a single sitting and acute gonorrhœa in a few days, as also all diseases of the urinary passages!" We agree that, such being the case, it is really sad to see deluded mortals prefer advertising charlatans to "doctors of long standing and good repute." He concludes with the melancholy reflection: "There is nothing to be done." But this, perhaps, is not quite true, for Dr.——— evidently thinks the thing to be done is to imitate the methods of those he condemns, and makes his light shine in the public eye instead of hiding it under a bushel.

A NEW INTERNAL ANTISEPTIC.

THE researches of Ehrlich in the elaboration of specific chemio-therapeutic preparations have stimulated attempts by others along similar lines. Edelmann and von Müller-Dehan have been engaged for some time on a study of the properties of a silver compound which has methylene blue as its "vehicle-constituent." The product is a blue powder, a colloid containing 24 per cent. of silver, easily soluble in water, and forming blue solutions. It seems to have very remarkable germicidal properties; it is lethal to the ordinary pyogenic organisms, *Bacillus coli*, and putrefactive bacteria in a dilution of 1 in 160,000; in the blood, where most antiseptics fail, it sterilizes in a dilution of 1 in 30,000, and at 1 in 80,000 it prevents bacterial growth. Its toxicity is low; when given by the mouth practically unlimited quantities can be tolerated by animals. The lethal dose in subcutaneons injection was 0.01 gram for a mouse of 15 grams, whilst a rabbit of 2 kilos withstood 0.2 gram. Much higher doses were easily borne by dogs. In human therapeutics the authors never exceeded 0.4 gram subcutaneously, which is certainly ten times less than the amount which might theoretically be employed. A rabbit can tolerate a dose of 0.05 gram of the substance by intravenous injection, and that dose has never been exceeded in the case of men. The authors have used the drug in the treatment of general or localized bacterial infections; it is administered subcutaneously or intramuscularly in doses of from 0.1 gram to 0.4 gram dissolved in 5 to 20 c.cm. of water; the injections are repeated at intervals of a few days. Usually the injections are attended by only very slight pain and trifling infiltration of the site of injection, but exceptionally the pain is severe, and in two cases sterile abscesses were produced. The dyestuff is quickly eliminated in the

urine, and no staining of the skin has so far been observed, nor any secondary actions on the circulatory, digestive, secretory, or central nervous systems. The authors treated 11 cases of blood poisoning, mostly due to staphylococci and streptococci, with 9 recoveries and 2 deaths. In acute rheumatism the results were very good, 7 cases recovering without any other treatment, as well as others that had proved refractory to salicylates and atophan. In this disease the pain and swelling promptly diminished, and the fever sank by lysis. Such complications as endocarditis and pericarditis quickly responded. Several other conditions are cited in their paper.[1] Tuberculosis was not materially influenced. Examples are also given of the effect in localized infections. In 7 cases of furunculosis the injection of small doses into the boils produced healing in a surprisingly short time, whilst control boils remained unchanged; the results in 120 cases of suppurative bubo treated locally are withheld from publication at present, as also those of a year's experience on gonorrhoeal urethritis. It is evident that Bruck, by his recent publication with regard to a similar drug (a compound of silver and uranin) claiming excellent results in the treatment of gonorrhoea, has stolen a march on the authors in this respect. Further accounts of treatment with this silver-methylene-blue compound, which is manufactured by Merck, of Darmstadt, will be awaited with interest.

THE GERMAN INSURANCE PROBLEM.

OUR special correspondent in Berlin writes that the charges of disloyalty brought by various medical societies interested in the insurance difficulties in Germany against Dr. Köppel have led to his resignation, and the whole profession awaits with anxiety the results of the ethical inquiry about to be instituted by the Ehrengericht. The accusation was met by Dr. Köppel and his friends by a complete denial, and the former followed up his resignation with a demand not only for an ethical inquiry, but with a declaration of his determination to bring the matter before the civil courts. "In my last letter on the insurance problem," our correspondent continues, "I indicated that in Berlin alone was there a prospect that an agreement might be reached between the urban insurance societies and the doctors. The belief that this was possible was based on the assumption that the demand for an addition of 200 fresh appointments to the now existing 800 panel practitioners in Berlin would be complied with by the societies. An assurance to this effect by Dr. Köppel, the trusted agent of the societies, was given at the time, but it would now seem that he had no authority for the statement, for the societies deny liability. It may well happen that negotiations will now cease, and that on January 1st the huge combination of Berlin urban societies will find themselves without a single doctor. But it is not only Dr. Köppel and his dwindling band of adherents who have aroused the indignation of the profession in Berlin, for Herr von Gostkowsky, the chairman of the Imperial Insurance Department, delegated by the Government to act as mediator between the societies and the medical profession, is accused of conspiring with Dr. Köppel to defeat the just demands of the doctors. It is stated that an agreement made between these two gentlemen would have fixed the *pro rata* treatment of panel doctors at the miserable figure of 5s. a year. If this accusation is to be accepted as proved, it is little to be wondered at that Herr von Gostkowsky is generally regarded as unduly biassed in favour of the societies, and that a movement is now on foot to petition the Oberpräsident von Branderburg — the highest official in matters medical for Berlin — to appoint another and more trusted referee to deal with this, as well as any future occasion of disagreement between insurance societies and medical men. Meanwhile time flies, and the new regulations come into force on January 1st. The war between the parties is general throughout the empire, and there is every prospect that paragraph 370, which ordains that when a society cannot for any reason appoint a sufficient number of physicians it may apply for and receive permission from the head insurance office in Berlin to distribute funds equivalent to medical benefit to its members, to cover professional attendance, drugs, etc., will have to be put in force. That such a contingency is more than likely is borne out by the fact that the Bundesrath—the highest parliamentary commission for the settlement of such questions—is at the present moment attempting to decide the best method of putting the paragraph into practical operation. It has, for instance, been determined that a workman who earns 3 marks a day shall have a maximum medical benefit allowance of 1 mark a day, but the greatest difficulty that will have to be faced is how it shall be determined that a claimant for medical benefit is really ill, if there are no medical men available to sign his certificate. This part of the insurance work has formed hitherto quite a considerable and responsible portion of the work of a panel practitioner, and the Bundesrath must have been sorely put to it to find a way out of the dilemma. It was, however, determined that if a society is unable to obtain the necessary certificates from medical sources, this duty shall be allotted to the lay inspectors of societies, employers of labour, midwives, nursing sisters, and 'other persons who may possess sufficient trustworthiness and special knowledge' to be recognized as signatories of the document. This edict of the Bundesrath will take away an important part of the physician's daily work, and hand it over to laymen, thereby gravely impugning the necessity for all the long years of medical study and State examinations at its conclusion. It would seem, then, that in this great fight for the status of medicine in Germany the Government is not on the side of the doctors."

[1] *Deut. med. Woch.*, No. 47.

THE CHOLIN TREATMENT OF CANCER.

IN discussing the results achieved by the chemico-physical methods of treatment of cancer at Heidelberg, Professor R. Werner[1] states that the method of fulguration, though it may be useful in inoperable cases for the purpose of cleaning up the bases of ulcerating surfaces, and of stimulating epithelium to form, is of little value in preventing the recurrence of malignant growths. After discussing in some detail the action of radium and other radio-active substances in the treatment of cancer, he passes on to a consideration of the results obtained by the combination of this method with the injection of cholin. He uses the borate of cholin (sold under the name of enzytol). He usually employs 2 or 3 c.cm. of a 10 per cent. solution diluted to 20 c.cm. It is administered by intravenous injection, and if well tolerated—and he has not observed any symptoms of intoxication—the concentration is gradually increased. The injections are given once daily for three or four weeks, and the course repeated after an interval of from four to six weeks. During the interval the patients are given arsenic, and, when possible, are sent to a spa the waters of which contain radium. In addition to the enzytol injections, his patients are treated locally by Roentgen rays, or by thorium, mesothorium, or other radio-active substances. He accounts for the absence of statistical evidence of the effect of the treatment on the ground that the cases he has treated in this way were either operable cases in which the patient refused to submit to operation, or inoperable cases of the severest types, many of them in a hopeless condition from the first. He states, however, that he was successful in getting mammary cancers to disappear in ten cases, in spite of the fact that in four the growths had become generalized, and the lymphatic glands involved. In nine cases of inoperable malignant lymphomata, four of carcinoma of the lip, three

[1] *Muench. med. Woch.*, September 23rd, 1913.

of cancer of the pharynx, one of malignant tumour of the sublingual gland, two of carcinoma of the parotid gland, and six of extensive cancer of the face, the growths disappeared. In six cases of gastric cancer the tumour ceased to be perceptible, and in two cases of rectal growth recurrence, he says, was prevented. He mentions one case of mediastinal growth in which the result was satisfactory. In five cases of uterine cancer the tumours disappeared completely or almost completely. The brief histories of the cases contain records of some very extraordinary results. One example will suffice. An engineer, aged 41, was submitted to an exploratory operation on January 19th, 1912, at which an inoperable adeno-carcinoma of the stomach with diffuse infiltration of the organ and multiple metastases were found. Later cachexia and frequent vomiting set in. From July 25th until August 9th, 1912, he was treated with *x* rays, thorium, and enzytol intravenously. After two months the tumour had disappeared; the patient had put on 20 lb. in weight, and in the beginning of September, 1913, he was apparently quite well and had, indeed, a robust appearance. Werner does not claim to have obtained permanent cures of cancer; he merely registers the facts that the growths disappeared under the treatment described, and that the patients remained well during the period of observation. It would be well if Werner's caution were generally imitated. It is well known that under the action of radio-active agents, malignant tumours may degenerate and even disappear, for a time at all events. The most striking results are seen in superficial epithelial growths, to which the rays have direct access. It is conceivable that the rays may act on those chemical fatty acids which, according to Freund, protect the cancer cells from the cell-destroying substances normally present in the blood, and thus give the body a chance of ridding itself of these functionless, proliferating elements. But until it can be shown that something of this kind does take place, or, indeed, that the cancer cells are removed more or less permanently, all that we can learn from Heidelberg is that some very remarkable temporary results have been achieved in certain cases.

VENEREAL DISEASES OF NEW YORK.

A BULLETIN issued recently by the Massachusetts State Board of Health (September 13th) contains an article by Dr. Hermann M. Biggs in which he defines the attitude of the New York City Department of Health in relation to venereal diseases. From an abstract in the *Boston Medical and Surgical Journal* of November 20th we gather that the compulsory notification of venereal diseases from public institutions and the optional notification of such cases under the treatment of private practitioners by number was established by the Board on February 20th, 1912. At the same time provision was made for carrying out the Wassermann and the complement fixation tests for syphilis and gonorrhoea, and for the examination of fresh smears for spirochaetes and gonococci in the city laboratories. The principles of action and the measures thus adopted were similar to those employed in the first endeavours to secure registration of tuberculosis and its administrative control. In practice, however, the opposition to such regulations has proved greater in the case of venereal diseases than in that of tuberculosis. Some public institutions have refused to comply with the orders of the Board. During 1912 the total number of cases reported as treated by 1,500 of the 8,000 private practitioners in New York was as follows: Gonorrhoea, 24,980; syphilis, 13,348; chancroid, 4,331, giving a total of 42,659. Obviously these figures very inadequately represent the actual incidence of these diseases among the people of New York. The Department of Health, however, is firmly resolved ultimately to secure full registration of venereal diseases, believing that it will be supported by public opinion, as was the case in tuberculosis. In July, 1912, the Board established a clinic for the diagnosis of venereal diseases. During the first four months of 1913 the total attendance at this clinic was 1,275; in a large percentage of these cases the Wassermann test was carried out. The Board believes that registration, early diagnosis, and prompt efficient treatment are the essential measures in dealing with these as with all infectious diseases. Hospital provision for the treatment of venereal diseases is now the most urgent need. The fact that people are awaking to the importance of a combined effort to suppress venereal disease is an encouraging sign of the times. But it must be recognized that it will not be an easy task. In a matter which so closely concerns the privacy and happiness of the home we are not oversanguine that anything like complete registration will ever be sanctioned by public opinion. Something, no doubt, can be done by arousing people to the duty they owe to their fellow men in helping to suppress a social evil of the worst kind. But unless some revolutionary change comes over human nature much will probably always remain hidden. We know how sensitive many are to the mere suspicion of cancer or tuberculosis in the family; how much more will this feeling operate in the direction of concealment when the disease is one that, though not always with justice, is regarded as a sign of moral taint.

HEALTH VISITS.

In a communication made to the Congress of the Alliance of Social Hygiene, Professor Albert Robin suggested a system of health visits with the object of avoiding sick visits. The idea is, of course, not new; from time immemorial it has been put into practice by certain peoples in the Far East. M. Robin points out that the old type of family doctor who was the friend and adviser of the family, whose influence was recognized and who was almost a part of it, has now nearly passed away. Besides his visits in cases of sickness he watched over the health of the whole family and looked after the development of the children. All this has changed in modern life, which, at least in towns, has brought about a change in the former relations between the family and the doctor. M. Robin thinks that although it would be impossible to re-establish the old relation, part of it should be recovered, that is to say, the medical supervision exercised by the doctor. This would be carried out by by periodical visits during health. It is obvious that such a system could be applied only within narrow limits. Not to speak of accidents, there are sudden attacks of illness which no medical sagacity can foresee or guard against. But the system of health visits, carefully and competently carried out, would have the incalculable advantage of disclosing the insidious attack of diseases such as tuberculosis and cancer, and thus making it possible to deal with them effectively before they have gone beyond cure. The health visit can never make the sick visit superfluous, but it might make prevention to a large extent replace cure.

A BISHOP ON VIVISECTION.

THE annual meeting of the Nottingham branch of the Research Defence Society was held on December 1st. The Right Rev. G. H. Frodsham, late Bishop of North Queensland, who was in the chair, said that the triumphs of medical research had had such general and far-reaching effects in England that it was difficult for the majority of people to realize what England would be without them. How many, for instance, had marked the practical disappearance of those poor little stunted children drifting to idiocy through cretinism? Who knew how many women were annually restored to healthy exercise of mind and body by the knowledge of facts relating to internal secretion and the thyroid gland? For ten or twelve years he had wandered to and fro in a huge tropical land where medical research was practically unknown. He was brought face to face with diseases, some new and others

old, all of which were imperfectly understood. There were certain diseases in tropical Australia the names of which were unfamiliar, perhaps meaningless, to the vast majority of English people—epidemic dysentery, dengue fever, ankylostomiasis, beri-beri, sprue, filariasis. Some of these diseases were well known to science, and their remedies had been found through scientific research in different parts of the Empire, in Manila, and in Japan. Others were still very obscure. Others again were easily diagnosed, but the remedy had not yet been found. Referring to the foundation of the Institute for the Study of Tropical Diseases in Australia, the bishop said he regarded his own modest effort towards that end as one of the best things he had ever done. In assisting in the formation of that institute he knew that it would entail to a certain extent experiments on living animals—principally by inoculation. The knowledge of antiseptics, of antitoxins, of all the thousand and one remedies that had relieved human and animal suffering, had been gained by experiments on animals. Investigators had sometimes paid the price of knowledge by the sacrifice of their own lives, as in the case of the American scientists who submitted to voluntary inoculation of yellow fever to prove that it could be transmitted by the bite of the *Stegomyia*. It was unthinkable that any could doubt the heroism and the sincerity of such men. The same spirit was in the hearts and lives of others who were often bespattered with contumely and abuse. If he had no other reason as a bishop for being in the chair at that meeting, he would still protest against the unfair treatment given to medical scientists. The Dean of Durham had protested in another connexion against the "unhappy habit of thinking fanatically." It was a wholesome thing for members of the Research Defence Society to remember that medical research was not the only movement that had suffered from this same unhappy habit in its critics. But the whole temper of British people was at the bottom opposed to fanaticism and prejudice, and it was against the fanatic and the prejudiced man that this society was in arms. Like Cardinal Newman, he was inclined to think that prejudice corrupted the soul "beyond those sins which are called deadly," for it was associated with an astonishing want of mere natural charity and possessed an unaccountable readiness to believe evil of others. This is not the first time Bishop Frodsham has spoken out strongly on the necessity of animal experimentation for the progress of the healing art. In the name of the medical profession we thank him for his able championship of the men who, in the face of painful misrepresentation, are labouring to wrest from Nature the secrets whereby disease may be conquered, and his denunciation in the name of Christianity of the spirit of hatred and uncharitableness in which the campaign against them is pursued.

THE LIBRARY OF THE SOCIETY OF APOTHECARIES.

THIS *Catalogue of the Library of the Society of Apothecaries*,[1] compiled by Dr. W. Bramley Taylor, Honorary Librarian, will interest equally the doctor, the book collector, and the botanist. There is always a charm about things botanical; and Fuchs and Lobel smell sweet and blossom in the dust, for, though few men living remember them, all men know the fuchsia and the lobelia. We find in this collection the works of Gesner, the botanist who more than any other writer encouraged the practice of applying the names of men of science and patrons of horticulture to genera of beautiful flowers and plants of economic value. Dahl, Nicot, Bougainville, Robin, and many others have had their names honourably commemorated in this manner. No fewer than seventeen herbals, from Brunfels's (1530) to Hudson's (1762) are to be found in Dr. Bramley Taylor's valuable *Catalogue*; there is, for instance, the best known of all, Gerard's, the compilation of a great plagiarist, yet an invaluable work of reference, and Clusius's *Rariorum Plantarum Historia*, his *Exoticorum Libri X*, and his *Curae posteriores*. This library is indeed lucky in possessing all three of these exceedingly rare works. Mr. Harting includes them among the special rarities noticed in the introduction he has written for the *Catalogue*. Among other treasures are Bauhin's *Historia Plantarum* and John Evelyn's *Compleat Gard'ner*, a translation of De la Quintinye's standard treatise on orchards and kitchen gardens. Burton's *New System of Midwifery*, the "five shilling book on midwifery" immortalized, together with its author, "Dr. Slop," by Sterne, in *Tristram Shandy*, is to be found in this library, but his *Letter to Dr. Smellie* is wanting. Mr. Harting's introduction includes a history of the library. Apothecaries' Hall was totally destroyed in the Great Fire in 1666, but, strange to say, the minute book of the Society contains no entry relating to the fire, nor is there any catalogue in existence of the books in the library before the fire. Possibly some were saved. The new collection was commenced within twenty years, and then separate libraries sprang up—one for the Society's laboratory and one for the Physick Garden at Chelsea. Dale of Braintree, the archaeologist of Norwich and Dovercourt, bequeathed his *Hortus Siccus* and that of the great botanist Ray, and their botanical works, to the Physic Garden. The plants are now in the British Museum. The library also has a large collection of pharmacopoeias, including works of that class issued in the United States, Strassburg (1725), Bavaria, Berlin, Brussels, Dublin, Edinburgh, Lisbon, Paris and St. Petersburg, also the Radcliffean and other pharmacopoeias prepared in great part, if not entirely, by one authority; last, but perhaps greatest of all, is the *London Pharmacopoeia* from 1774 to the later issues and translations down to the middle of the last century, when the amalgamation extinguished it.

[1] *Catalogue of the Library of the Society of Apothecaries*. By William Bramley Taylor, Master of the Society and Honorary Librarian. Edited with an Introduction by J. E. Harting. London: Taylor and Francis. 1913. (Demy 8vo, pp. 106.)

ADVERTISEMENTS AS TO APPOINTMENTS.

A RESOLUTION was passed recently by the Council of the Association to which it is desirable to call attention. It was to the effect that no advertisement of a vacant appointment, including assistancies and locum-tenencies, tendered for insertion in the BRITISH MEDICAL JOURNAL will in future be accepted for publication if it requests applicants to state the salary they would require or accept. This decision of the Council was reached after consideration of reports on the subject by the Medico-Political Committee, including a recommendation in the sense stated. It has always been the custom of the Association to discourage those making medical appointments from seeking or attempting to induce practitioners to bid against each other, but until the present decision of the Council this policy had not been applied as regards advertisements offered to the JOURNAL. It is now recognized that, in addition to the impropriety of practitioners underbidding each other as regards any given work—an impropriety which in certain circumstances might even amount to an ethical offence—the publication in the JOURNAL of advertisements which include such a request to prospective candidates should be guarded against. It is recognized that through such advertisements appointments might be given to the applicants who expressed their willingness to do the work at the cheapest rate, and that such a practice must tend to reduce the remuneration of medical work of the particular kind advertised, and indirectly tend to lower the remuneration of medical work generally. The attention of intending advertisers, whether members or otherwise, is specially drawn to this decision of the Council.

England and Wales.

[From our Special Correspondents.]

Newcastle-upon-Tyne.

Retirement of Professor Rutherford Morison from the Staff of the Newcastle Infirmary.

Owing to the operation of the age limit Professor Rutherford Morison has retired from the active staff of the Victoria Infirmary, Newcastle, after twenty-five years of active service.

A former pupil of Mr. Morison, who has long been his colleague on the staff of the infirmary, writes:

Retirement of Morison! Who can say exactly what that means to the Newcastle school? We have had many surgeons of whom we have been justly proud, but none has had so great an influence on the progress of their art, and certainly none has shed so great a lustre on the school. Appointed assistant surgeon in 1888, he just came in time to take part in the evolution of the practitioner-surgeon into the pure surgeon, and from the first he devoted his whole energies to the surgical art, and was undoubtedly the beginner of a new régime in surgery in this district. In those far away days he was the keenest of disciples of Lister, and those who can remember the discussions at the Northumberland and Durham Medical Society will recall the incredulity with which his magnificent results were then received. In the year of his appointment 945 operations were performed in the infirmary, while during last year there were no fewer than 8,056. The greater part of this progress is due to the advance of surgery, but Morison has been very largely the guiding spirit, and a very great deal is due to his magnificent enthusiasm. Always on the alert for that which was new and good, he successively tried, and often adopted, the various procedures as they came out. But Morison was ever original in many fields, and especially in abdominal surgery he was among the pioneers. Many of the methods he introduced are well known by his name, but, as is natural, much that he introduced has been absorbed in the general progress of surgery. When he first came to us from general practice in Hartlepool he devoted himself whole-heartedly to the study of anatomy, and this had much influence on his surgical career, for, above all else, he is systematic in his work, and has reduced many of the well-known surgical operations to schematic orderly procedures. In his surgery, as in fact in everything else he does, the master word is "thoroughness." In the wards he devoted as much time to the investigation and diagnosis of his cases and to the after-treatment as to the operation, and always made it a rule to have a *post-mortem* examination in every fatal case, and there must have been very few such examinations that he did not personally attend.

Perhaps more than anything else Morison will be remembered as a teacher. There was nothing he so much enjoyed, and, as he once confessed, whatever else in this world he had doubts about, he was always satisfied that when teaching he was doing good. Which of his students will ever forget his Friday morning clinics, or those who can remember far enough back the splendid lessons learnt from him in the out-patient department? If he did nothing else, he taught the importance of observation, and he *made* his students think. Many a man who came to him as house-surgeon has been revolutionized, for nothing in their whole professional career meant so much as the six months with such a chief. Teaching of all sorts appealed to him, and he would allow no sort of private engagement to interfere with his ward visits or clinical lectures. From time to time he held post-graduate classes, for he always considered it a sacred duty to make the material entrusted to his care of the greatest use to the greatest number.

He was an ideal hospital surgeon, and for nearly the whole of his service he attended six days a week, and, in the earlier years, seven; and it was no formal visit, for he always came at 10 and seldom left till 1 o'clock, and on operating days it was usually between 2 and 3 before he left the infirmary gates. There are those of us who can well remember spending mornings with him in the operating theatre which went on into the late afternoon, to say nothing of the memorable occasion when he operated from 10 to 6!

Of course, there are other duties which fall to all who, as time wears, find themselves in positions of seniority, and, though he disliked all committee work, during later years he took his full share, for as soon as he realized that it was his duty to do any particular thing he was never known to shirk. Though his outspokenness may sometimes have caused a little annoyance, his honesty and absolute integrity always brought him the respect of his strongest opponent.

Others are better fitted to speak of his medico-political work and of the strenuous times through which he guided the old Northumberland Medical Union. Centralization and co-operation always appealed to him, and he was a staunch advocate for the use of the British Medical Association not only as a valuable medico-political organization but as a ready machine for the diffusion of knowledge among the profession.

Helpful as a colleague and generous to a fault, he will be greatly missed among us. Happily Morison was a maker of surgeons, and most of the present staff and those who will carry on his work have been largely influenced by his example and teaching. Fortunately the students may still enjoy the benefit of his wisdom, for he retains the professorship at the College of Medicine.

At the last quarterly court of governors, held on November 27th, Professor Morison was presented with an illuminated address commemorating his services to the institution, and he was at the same time elected an honorary consulting surgeon.

In the full possession of all his activities it is too much to expect that he will seek leisure, but we all hope that he will for long enjoy the opportunity of employing his great powers for the advancement of surgery.

The Medical Secretary of the British Medical Association writes: I have been asked, as an old colleague, to say something of Mr. Rutherford Morison's medico-political work on the occasion of his retiring from the active surgical staff of the Newcastle Infirmary. Were it not for the fact that to a North Countryman any time is a good time to testify to Mr. Morison's work for the profession, I should question the appropriateness of this particular time, except on the express understanding that because he will have less time to spend at the Newcastle Infirmary he can therefore be expected to give even more of his energies to the promotion of the welfare of the general practitioner. I hope he will take the hint, for there is no man in the North who is able to render quite the same service to his professional brethren, or who has given more evidence of his willingness to do it.

Mr. Morison might well have been excused if, like most consultants, he had pleaded the claims of an exceedingly busy professional life as an excuse for leaving alone those things which only indirectly concern him. But he has never taken this line. He has never forgotten the years he spent as a general practitioner, and he has always been willing to make time to look after the interests of the general practitioner, and particularly of the colliery practitioner. When in 1899 the movement began in Durham for improving the conditions of the colliery doctor, Mr. Morison at once put himself at the head of a similar movement in Northumberland, forming the Northumberland and Newcastle Medical Association, and for the two years or so during which that fight lasted he was the life and soul of it. Not only did he put his time and money at the disposal of the profession, but he was the one man who by his unique personal and professional position was able to influence both the workmen and the colliery owners in a way which rendered the victory in Northumberland easy compared with what it was found to be elsewhere. He was among the first to see the necessity of making use of the machinery of the reformed British Medical Association, and gave his cordial adherence to the policy of one organization for the whole of the needs of the profession. In face of considerable opposition he insisted on the Northumberland Association being merged in the general work of the North of England Branch of the Association, and of that Branch he has always been a staunch supporter, giving his valuable time and services as freely as they were asked for. He has been the standing exemplar in the North of the

axiom that the interests of all classes of the profession are common, and that anything which elevates or depresses the standard of the general practitioner cannot fail to affect the other ranks of the profession. As an old colleague of Mr. Morison, and one who has received many kindnesses at his hands, I am very glad to give this little testimony to his medico-political services to the profession; and in doing so I am voicing, I know, the general feeling of the medical men of the North. I must close, however, as I began, by expressing my anxiety lest this should be taken as in any sense a valedictory notice. It is intended as a word of thanks for past services and an expression of an earnest hope that Mr. Morison will continue to give as much of his time as possible for the general good of the profession of which he is so distinguished a member.

LONDON.

DEPARTMENT FOR SYPHILIS AT THE LONDON HOSPITAL.—THE Out-patient Committee of the London Hospital has recommended the establishment of a special department for the treatment of syphilis, and the recommendation has, we understand, been accepted. The Committee took this course as a result of the receipt of a very able report by a subcommittee, over which Mr. Ludovic Goetz, Chairman of the Out-patient Committee, presided. This report, after a sketch of the history of syphilis from its earliest recognition in Europe to the present time, including an account of the discovery of the spirochaete by Schaudinn, the evolution of the Wassermann reaction, and the discovery of the therapeutic value of salvarsan by Ehrlich, went on to endeavour to form an estimate of the number of cases of syphilis in London. After noting that Erb had estimated that 12 per cent. of the population of Berlin were syphilitic, and Fournier that of the population of Paris 15 per cent. had the disease, the report states that Dr. Fildes examined the blood of 300 adult corpses in the *post-mortem* room of the London Hospital. The patients had been admitted to the hospital for diseases of all kinds, and the examinations were made without regard to the cause of their admission: the Wassermann reaction was positive in about 15 per cent. From all the data available the Committee arrived at the conclusion that about 12 per cent. of the population of London might be supposed to be infected. The report then discussed the subject of syphilis as a disease of the innocent in the following paragraphs:

> For years it has been felt that the disease was a disease of guilt. So it may be. It is also a disease of the innocent. Fournier has said that 25 per cent. of all women infected with syphilis contract the disease innocently. Dr. Sequeira, out of 35 women recently treated by him in hospital, reports that 11 had contracted the disease by other means than the usual one—most of them by kissing. The same member of our staff has had under treatment many children who have also been infected by kissing. Recently a woman entered his department suffering from the rash of secondary syphilis; she carried in her arms a baby which, on examination, was proved to have the disease by inheritance. The patient had with her two other little children, both of whom had syphilitic chancre on the mouth through kissing the baby. A girl of 12, infected by her own mother's kiss, is at the present moment under treatment in the hospital; and Dr. Sequeira described to us a case, reported recently, in which at an evening party, some kissing game was played; at this party one person with a chancre on the mouth infected with syphilis nearly every girl present. He had recently under treatment the case of a glass-blower's boy assistant. The practice of the glass-blower was to hand his blowpipe with the bottle blown to his young assistant, the latter continuing to blow before knocking off the bottle. The boy in question had a primary syphilitic sore on the lip, and the elder man was induced to come up to the hospital and was found to be suffering from active syphilis of the mouth. The infection through glasses, drinking utensils, and towels are met with, but are not common. Dr. Sequeira recently had a case in which a beer-can handed from one workman to another was the agent which carried the infection. He also had a case recently of the chef of a railway dining car, who came direct from his work to Dr. Sequeira's out-patients, and on being examined was found to be so ill as to necessitate admission. Dr. Sequeira says "he was in a highly infectious state, with marked fever, and was one of the worst cases of syphilis I have seen," and this was a chef in a dining car! And one wonders how many people he may have infected. There was recently a baker here as a patient who was actually unable to leave his baking, even to come into the hospital for salvarsan treatment. Dr. Fildes reported to us the case of a patient with chancre of the eyelid, due to the attempted removal of some foreign body from his eye by the corner of a handkerchief moistened in his wife's mouth, who had had syphilis. We have been reminded of some of our own staff who have been infected from patients accidentally, physicians and surgeons, nurses, students—by attending a confinement, in carrying out a *post-mortem* examination, by the bite of a patient in the dental department, in the dressing of a wound in the out-patient department. We have mentioned these various instances to show that the disease is not a disease of the guilty alone.
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> While the disease was regarded only as a disease of guilt, that its visitation was a punishment, a special retribution of Providence, respectable institutions closed their doors to the syphilitic, although such a patient was sometimes allowed to attend the various out-patient departments; but such treatment was not satisfactory, as the patient often ceased to attend when *he* thought he was cured.
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> . . . For the good of the race and for the good of the children yet to be, an organized war on the spirochaete should begin. With the new weapons the curse may be ended. Dr. Bulloch states that if the weapons at our hand were wisely used syphilis would be as rare as is small-pox in the course of a generation.

The report contains the following expression of opinion on compulsory notification of syphilis:

> Compulsory notification is no good; it tends to secrecy. The man or woman who knows that the doctor must notify the disease will keep clear of the doctor and go to the quack. The stigma, the old stigma, still clings to the disease. That is why men and women will not go to lock hospitals, but keep the disease a secret, thinking that when the chancre or rash disappears they are well. Therefore, patients must be encouraged to come for blood examination and cure if necessary, not simply for their own good, but for the good of the nation.

In making recommendations for carrying out the principle involved in the report, the Committee expresses the opinion that a certain number of beds should be provided, as no patient should be treated by the intravenous injection of salvarsan unless afterwards kept in bed, and under proper nursing supervision. It is customary at the London Hospital to give three injections during the space of ten days, and the patient should remain in the hospital for that period. It is considered that in order to render possible the proper classification of patients a number of small rooms with one or two beds would be required. It is thought that not less than ten or twelve beds should be provided to begin with, and it is hoped that at least 40 cases would pass through each bed yearly. It will be necessary to relax the rule of the hospital which forbids the admission of a mother with her baby in arms, for if the mother be syphilitic the baby most certainly would be also. Admission to the department should not be governed by questions of morality or immorality; the only question should be whether the case be infectious or not. The general rule would be that the department was intended for the treatment of primary and secondary syphilis, and this would tend to eliminate a number of patients of the prostitute class who had reached the tertiary stage. With regard to the value of salvarsan in that stage, the Committee was advised that in certain skin affections the result was almost magical, and that in certain nervous diseases it produced undoubted improvement. The Committee was further advised that in general paralysis and locomotor ataxy there was little obvious effect, but there was no progress of the disease after treatment; there was little or no effect upon arteries. The report insists upon the importance of complete and accurate notes being kept of all cases, and concludes with a reference to the question of medical education. It is pointed out that it is most important that men who in

their after-life must meet the disease wherever they go to practise should, before they leave the hospital, become familiar with every scientific method of exterminating it, and should be taught the care necessary in diagnosing the disease, and in the supervision of patients treated by salvarsan.

A course of twenty-four special lectures on syphilology will be held at the London Hospital Medical College during February and March, commencing on February 3rd. Further particulars relating to the course will be found in the advertisement columns.

MANCHESTER AND DISTRICT.

CANCER RESEARCH AND RADIUM TREATMENT.

AT the annual meeting of the Christie Cancer Hospital, Manchester, held on December 1st, Sir F. Forbes Adam, who was in the chair, laid stress on the need for more research work to discover the causes of cancer and methods of prevention. Professor Wild, honorary physician to the hospital, said that cancer was undoubtedly increasing, as the Registrar-General's latest report (1911) showed that the death-rate was steadily rising. Some years ago it was said that the increase was only apparent owing to improved methods of diagnosis, but that could hardly be the case at present, as doctors were now always on the *qui vive* to recognize the disease as early as possible. He was rather inclined to think that the increase was greater than the death-rate showed, because the more thorough surgical treatment at earlier stages brought about a considerable number of cures. But the undoubted increase showed the need for increased research into the conditions under which cancer arose, its causes and treatment. The Manchester University had now at its disposal a considerable sum of money for cancer research, and one of the most efficient laboratories in the country had been fitted up for the purpose under the superintendence of Professor C. Powell White, who was connected with both institutions. The Committee of the hospital had also devoted a certain sum of money to research, but he should be glad to see additional donations earmarked primarily for research, as both more men and more money were needed. He had no doubt that radium was an extremely active means of getting rid of certain forms of cancer. The hospital was fortunate in possessing a small quantity of radium obtained from Professor Schuster when the price was much lower than at present. It was only sufficient to treat very small malignant growths, but in those that were small enough to be covered by it considerable success had been obtained. To provide an amount of radium capable of treating the extensive cases that were in the hospital would call for an expenditure which was hardly justified until the results were known of the work that was being done at the Radium Institute in London, which had a very large quantity of radium. For the treatment of such cases as were admitted to the Christie Hospital, less than £10,000 would be hardly worth using, because there was danger that the treatment, unless great care were used, might arouse a more active growth instead of curing. There was a prospect, owing to the discovery of new sources of radium, that the price might become much lower, and a small hospital would hardly be justified in spending a large sum of money at present until the beneficial results claimed for the use of large quantities at the Radium Institute were fully established. Some of the radium emanations prepared in the laboratory at the college had been tried at the hospital, but so far the results had not been so good as some that had been described. It would be necessary to consider whether an arrangement should be made for a supply of the emanation from London; the difficulty was that the preparations so quickly became weaker that even in the transit from London to Manchester the strength lessened by 30 per cent., and at the end of a week was practically exhausted. Whether the emanation could be prepared in Manchester in sufficient quantity he did not know; but very costly apparatus had to be used, and, though ready to undertake any treatment that proved to be promising, he thought that until it was definitely known whether the emanation could replace radium itself, and whether its use was free from risk, a waiting policy was the wisest.

Professor Delépine said that, in spite of great advances in the knowledge of cancer, nothing was known of its causes, and he suggested that some organization should be established to direct and co-ordinate the work of all who were interested in the subject. Dr. C. Powell White referred to a statement made by a professor in America that tea and coffee were a prolific cause of cancer. He knew no reason for such a statement, and if people were to abstain from every food which some supposed might produce cancer there would be nothing left to eat. The university had a large and well-equipped laboratory for research, but more workers were required in it, and that involved more money; and, indeed, all the manifold aspects of cancer research could absorb all the money it was possible to get.

LIVERPOOL.

AFTER Dr. C. J. MacAlister had read, at the Liverpool Medical Institution, a paper on the influence of venereal disease (published elsewhere in this issue) a small committee of the members of the Institution was appointed to collect evidence bearing on the questions now under consideration by the Royal Commission on Venereal Diseases.

MUNICIPAL BACTERIOLOGICAL EXAMINATIONS.

Arrangements have been made by the Health Committee for amplifying the existing system of bacteriological examinations with a view to facilitate or confirm diagnosis in doubtful cases of zymotic disease. The city bacteriologist will examine free of cost to Liverpool practitioners sputum from cases of suspected tuberculosis, swabs from suspected diphtheria, blood from suspected typhoid fever, and secretions, etc., from other forms of zymotic disease.

MUNICIPAL SUPPLY OF ANTITOXIN.

The diphtheria antitoxin provided by the Port Sanitary and Hospital Committee at the city infectious hospitals is available for practitioners for emergency use. In cases other than emergencies in which antitoxin is required, practitioners are expected to obtain it in the ordinary way. No charge will be made in the case of persons unable to pay.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

HIGHLANDS AND ISLANDS MEDICAL SERVICE.

Scheme for Administering Fund.

A CIRCULAR has been issued by the Highlands and Islands Medical Service Board to all the authorities concerned, asking for suggestions for the distribution of the fund created by the Highlands and Islands (Medical Service) Grant Act of 1913.

The circular points out that the Act provides for subsidies from the fund being placed at the disposal of local authorities, Insurance Committees, district nursing associations, or other bodies or persons, or of any joint committee of local authorities or Insurance Committees or of local authorities and Insurance Committees. It is clear (the circular proceeds) that the intention of the Act is to provide for a development and correlation of the existing public services so far as that can be effected by combination amongst the bodies concerned. The Board therefore considers that an important part of its work is to bring about an administrative consolidation of the existing services, and no payment will be made from the fund except as part of a well-considered scheme in which all the existing services can be turned to the best account. All statutory bodies concerned should realize that the improved service provided for by the Act is not intended to relieve them of their existing obligations in regard to medical service. On the contrary, it should, in the opinion of the Board, be a condition precedent to any grant from the fund that the bodies in question are taking reasonably full advantage of their powers under the statutes in force.

The fund must be administered and applied in accordance with a scheme or schemes prepared by the Board and approved by the Secretary for Scotland, with the consent of the Treasury. The Board proposes to proceed forthwith with the preparation of such schemes, but feels that the needs of the several districts vary so much in character and extent that it would be impossible to frame satisfactory schemes for the application of the fund without

first obtaining the views of the bodies who may be entrusted with or associated in the administration of grants from the Board.

Facilitating the Work of the Doctor.

Schedules with an extensive series of questions accompany the circular, but subject to the consideration of any alternative proposals that may be submitted, the circular states that the Board has at present in view a scheme providing for the consideration *inter alia* of the methods by which the cost of medical attendance other than that provided or assisted through public funds, local or imperial, can best be brought within the means of persons of only very limited income. It is thought that the fact that a patient's residence happens to be distant from the nearest doctor ought not to add to the cost. To facilitate communication with the doctor it will be the aim of the Board to take advantage of the telephone and telegraph services wherever these exist, and to get extensions of these services introduced where practicable. To facilitate attendance at patients' residences it will frequently be essential that the doctor be enabled to provide, or be provided with, the most suitable means of conveyance—motor car, motor cycle, motor boat, a horse for bridle paths, and so forth, according to circumstances. In some cases it will probably be necessary to provide a doctor with a suitable dwelling-house, so that his work may be carried on from a centre convenient to the population depending upon him for attendance. As indicated in the report of the Highlands and Islands (Medical Service) Committee, there is abundant evidence that the income of many of the doctors in the Highlands and Islands is entirely inadequate for the services required of them. This must be kept in view in any suggestions that it may be desired to submit.

Nursing and Hospitals.

With a view to securing that every area shall have an adequate nursing service it is proposed to see that, in one way or another, nurses are established at convenient centres throughout the Highlands and Islands. It will be the endeavour of the Board to utilize the local nursing associations, where these exist, but in any case the system of nursing to be organized must be such as to meet the requirements both of the official and of the voluntary medical services so far as that may be found to be practicable. The qualifications required of the nurses will vary with the circumstances, and the variation will largely depend on the practicability of close supervision of the work of the nurse or nurses by the medical practitioner of the locality. The duties of the nurses will be related to medical, surgical, and midwifery cases. In many instances, perhaps in most, the head quarters of a nurse ought to be at the hospital of her district.

In some districts there is need for small hospitals capable of accommodating from four to six patients. Due regard must, of course, be paid to existing accommodation, but the main consideration determining the situation of these hospitals will be their accessibility to the population to be served, and the convenience of medical and nursing attendance. They will be of simple structure, and will include accommodation for a small resident staff of, say, one nurse and a maidservant. Such hospitals would be used where house accommodation for domestic nursing is unsuitable, and when medical attendance can be better given at the hospital than at the patient's home. Where, for example, the patient's home is far distant from the doctor, whilst at the same time the nature of the illness requires frequent visits, the case may be removed to the hospital for treatment there. The Board will also take into consideration the local needs for specialized medical services. Such services include provision for examination and treatment of eyes, ears, and teeth—particularly of school children—laboratory facilities, provision of surgical appliances, assistance at operations, medical consultations, etc. In considering the provision, by school clinics or otherwise, for the medical treatment of school children, the Board will have regard to the imperial funds placed at the disposal of school boards for this purpose.

It is recognized that the schemes outlined above do not exhaust the means that might be employed for the prevention, treatment, and alleviation of illness and suffering, but it is thought that they would go far towards meeting the more pressing needs in the great majority of localities.

The Clinical Medicine Research Laboratory in the Royal Infirmary of Edinburgh.

With the recently founded Clinical Medicine Research Laboratory in the Edinburgh Royal Infirmary the late Dr. George A. Gibson's name is intimately associated. Its establishment was made possible by the generosity of one of his friends (who preferred to remain anonymous), and to his appeal for their support and co-operation the managers of the hospital cordially responded. Although Dr. Gibson has been removed by death, the laboratory he did so much to establish has begun its work; and in a recent number of the *Edinburgh Medical Journal*[1] Dr. Harry Rainy is able to pass in review a number of published papers containing the results of researches carried out in it. The original trustees were Sir Thomas Fraser, Dr. Gibson, and Dr. Rainy; the last named acts also as organizing secretary and treasurer, and Dr. William Russell has recently been appointed to fill Dr. Gibson's place. The duties of acting superintendent have, at the wish of the managers of the Royal Infirmary, been imposed upon the junior assistant physician for the time being. Financial aid from the Carnegie Trustees has also enabled the trustees of the laboratory to secure the services of a trained mechanical assistant. It was early decided to carry out researches in groups, and the first series of investigations has been on disorders of the circulation, studied by means of recent physical apparatus; and now Dr. W. T. Ritchie and a number of the younger men have completed and published certain pieces of work along these lines. Thus Drs. Hope Fowler and W. T. Ritchie have made public their observations on orthoradiography of the heart and aorta in September, 1912, and Dr. Ritchie has read four papers dealing with the action of the vagus on the human heart (October, 1912), on vagus stimulation and paresis in the treatment of cardiac irregularities, on auricular flutter (December, 1912), and on the absence of certain mitral murmurs in mitral disease (May, 1913). Dr. Watson-Wemyss and Dr. J. D. Gunn have made an important preliminary communication on the registration of heart sounds by simultaneous electro- and phono cardiograms (August, 1913); and Dr. George D. Mathewson has written on four cases of lesions of the branches of the auriculo-ventricular bundle studied with the string galvanometer (June, 1913). These various papers have appeared in the *Edinburgh Medical Journal*, the *Quarterly Journal of Medicine*, the *Transactions of the Medico-Chirurgical Society of Edinburgh*, and in *Heart*. They are all pieces of research work which would have appealed very specially to Dr. Gibson, whose interest in the heart was great. A second group of researches is now being instituted under the guidance of Dr. J. D. Comrie, and will be concerned with investigation of disorders of the alimentary system by modern physical methods. It is not difficult to foresee that the new laboratory will admirably utilize much clinical material in the Royal Infirmary, and prepare the way for still more scientific methods of diagnosis and treatment in the immediate future.

The Nazareth Hospital of the Edinburgh Medical Missionary Society.

The three days' (December 4th, 5th, and 6th) bazaar in the Music Hall, Edinburgh, in aid of funds for the erection of a hospital at Nazareth in connexion with the work of the Edinburgh Medical Missionary Society in that town of hallowed memories has aroused a large amount of interest in Edinburgh, Dundee, and other places in Scotland, England, and the North of Ireland. The society, besides its large home work in Edinburgh, has maintained a medical mission in Nazareth for many years, and the late Dr. Vartan did much strenuous preparatory labour there, often in face of active opposition, and almost always with scant sympathy from the inhabitants of the Galilean town. Not long before his death he was joined by Dr. Scrimgeour, who is a graduate of Edinburgh and a native of Dundee, and the newcomer's command of the most recent methods of surgery soon began to attract patients from all parts of the Holy Land and from far in the desert to the little temporary hospital in a hired house which was the only accommodation available. In a remarkable way, too, the effect of Dr. Vartan's life-work was seen at his death, when old animosities and race antagonisms

[1] *Edinburgh Medical Journal*, October, 1913, pp. 318-327.

seemed to have been broken down, and soon the directors of the society were compelled to realize that they had now in Nazareth a prepared soil for missionary enterprise as well as an urgent call to provide the best surgical skill in a properly equipped and sufficiently large hospital. Dr. Scrimgeour was joined by two trained European nurses and a young assistant, Dr. Ian Macfarlane. Funds were collected, a site was bought with a secure tenure, and the doctor's house was built upon it; but the money in hand was not sufficient for the construction of the hospital, and, with the cost of labour and of materials in the near East constantly rising, it was felt that an effort to raise the necessary funds must be made at once. The idea of a large bazaar was mooted, and the friends of the society nobly responded.

The bazaar was opened on Thursday (December 4th) by the Marquis of Linlithgow; the Lord Provost of Edinburgh occupied the chair, and among those on the platform were Professor Crum Brown, the present President of the Edinburgh Medical Missionary Society; Drs. James Ritchie and J. W. Ballantyne, former presidents; Sir Thomas Clouston, Canon Dawson, Mr. T. A. Bailey, Mr. J. W. Moir, Dr. Sargood Fry, and the Secretary of the Bazaar (Mr. A. Russell Simpson, W.S.). The Marquis of Linlithgow thought that there was an appropriateness in the name of the society, because Edinburgh and the whole science of medicine were so closely allied; and any one who had been in the East could realize how many people there were in those far-off lands who had absolutely no sort of medical comfort. On Friday Emeritus Professor Crum Brown presided, and Sir Ludovic Grant, who declared the bazaar open, observed that though standard histories said that the last crusade to the Holy Land took place some 640 years ago, this was wrong, for the last crusade to the Holy Land was in active and actual progress at that very moment. The organizing activity of bygone Pope and Emperor had reproduced itself in a new and nobler form in the organizing activity of the Edinburgh Medical Missionary Society, and the doughty deeds of mediaeval chivalry found a modern counterpart in the heroic services of that devoted little band of doctors and nurses who were carrying on the society's work in Palestine. During the course of the second day of the bazaar a telegram was received from the Church Missionary Society at Nazareth conveying best wishes for the success of the undertaking. Mrs. Wauchope, of Niddrie, opened the proceedings on the third day. The sum required was £5,000, and it is believed that after the expenses have been met this amount will be realized, for along with donations and the receipts from preliminary sales the bazaar was the means of raising about £5,400.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

The Meat Supply of Belfast.

On the evening of December 2nd Dr. O'Neill, Chairman of the Market Committee, Belfast Corporation, delivered a lecture on the meat supply and how to improve it, in the Central Hall, Technical Institute. Sir Richard Anderson, in the absence of the Lord Mayor, presided. Dr. O'Neill explained the resolution of the Market Committee, which advocated the examining and stamping of all meat exposed for sale for human consumption. The necessity of a public abattoir was emphasized. The hygiene of many private abattoirs was hopelessly below modern requirements, but seldom or never had there been a seizure of a diseased carcass in any private slaughter-house within or around Belfast. During the five years ending March 31st, 1908, 121,459 cattle had been slaughtered in the public abattoir, and 817, or 1 in 148, had been condemned and destroyed. In the same period 12,641 carcasses had been brought in from outside, and 180, or 1 in 70, had been condemned and destroyed. During the same period about 15,000 cattle had been slaughtered in private slaughter-houses, and not a single carcass had been seized and condemned. Dr. O'Neill then gave a number of other statistics and numerous illustrations of prosecutions for the sale of diseased meat. A large number of public institutions have now passed resolutions requiring all flesh meat supplied to them to be stamped with the corporation abattoir stamp.

The lecturer finally enlarged on the necessity of encouraging a good stock of animals, of providing suitable hygienic byres, of enforcing the various provisions for slaughtering, and of inspecting all animals intended for public consumption. A hearty vote of thanks to the lecturer was proposed, seconded, and passed by acclamation.

The Epidemic of Scarlet Fever in Belfast.

The epidemic of scarlatina still continues; the Public Health Committee is making every endeavour to discover the mild unsuspected cases in schools which are so apt to spread the infection; last week 67 new cases were notified. At the monthly meeting of the City Corporation, on December 1st, communications were received from seven large English towns, showing that a similar epidemic is affecting many other cities. The annual death-rate from all causes was 16.1.

Correspondence.

RECENT VIEWS ON SYPHILIS, SPIROCHAETES, AND SLEEPING SICKNESS.

Sir,—I have read with much interest the valuable paper on syphilis by Dr. Mott in your issue for November 15th. His remarks regarding a latent form of *Spirochaeta pallida* specially appealed to me.

In the *Journal of the Royal Army Medical Corps* for June, 1911, when commenting on a paper by Gibbard, Harrison, and Cane, I gave reasons for thinking that there is a "spore" stage in the life-cycle of the spirochaete, and that this may be a factor in the mechanism of relapse.

I also, as Dr. Mott mentions, described the granule-shedding which I witnessed by the dark-field method, and which I subsequently studied more fully with Captain W. R. O'Farrell. At a later period I suggested that a development of spirochaetes from granule or "spore" forms might possibly give rise to the histological changes found in the nervous system in those parasyphilitic conditions which Dr. Mott has renamed "parenchymatous syphilis," and so account for the symptoms met with in the tertiary stage. It seemed to me unlikely that spirochaetes could exist as such for ten or more years in the human organism. I was unable to follow out this work, which in any case, as Dr. Mott states, is beset with difficulties, but I have to some extent traced what I believe to be the development of the spirochaete granule in Sudan fowl-spirochaetosis, and I think it is by studies in comparative pathology that we are most likely to get at the truth in the case of syphilis.

Granting that there is a granule or "spore" stage, it is probable that such spores are resistant, and that the difficulty in treating syphilis in a radical manner depends to some extent on the impenetrability of these latent forms to our spirochaeticidal drugs.

Is it possible to find a substance which will act, so to speak, as a "carrier," and so convey the drug into the cytoplasm of the spore and thus cause it to perish? It may be so when we consider the work of Wassermann and his collaborators in their efforts to cure mouse-cancer. They employed a compound of selenium and the dye eosin, and proved it to have a selective action on the cells of the tumour mass.

Having found that toluidin-blue, which is the zinc chloride double salt of dimethyl-tolu-thionin, has a special affinity for the granules of what we may call *Spirochaeta gallinarum*, I thought it might be worth while to try what a combination of toluidin-blue and a drug like arsenic or antimony could effect in the treatment of spirochaetal conditions or of trypanosomiasis. I determined the toxicity of toluidin-blue in the case of gerbils, and thereafter took some with me to Yei in Western Mongalla (late Lado Enclave) and handed it over to Lieutenant Ranken, who was working there at sleeping sickness and yaws. He employed it along with Plimmer's metallic antimony in a case of yaws, and his account of the case will be found in the *Proceedings of the Royal Society*, Series B, for September of this year, and the *Journal of the Royal Army Medical Corps* for the same month. He states that in Case 51 he gave 1 grain of the dye by the mouth before the first, third, and fifth

doses of antimony in the first course. His report on the present condition of the patient is as follows: "Much improved; better nourished; no tumour; glands small; puncture negative; blood examination negative."

Of course this is very little to go upon, and the good results may have been wholly due to the antimony; but I mention the matter because I think it is along some such lines that we may possibly attain complete success in treating syphilis. At the same time it is obviously very difficult to say what interaction may take place when one combines two such bodies as, let us say, toluidin-blue and salvarsan. In this country we have had little experience of the chemical affinities and reactions of anilin dyes and of the more complex arsenical compounds. It would seem a promising line of research, but we require to get our preliminary knowledge from the Germans, who have specialized along these lines to the benefit of humanity.

At the same time, as Dr. Mott says, it is very necessary to get the life-cycle of spirochaetes worked out. The whole granule theory may yet fall to the ground, but there is sufficient evidence to make it imperative that it should be thoroughly investigated, for, if it is true, it will enable us to devise new measures for combating one of the greatest scourges of modern civilization.—I am, etc.,

ANDREW BALFOUR, M.D.

NOTE.—Dr. Mott's attempt at treatment by means of intrathecal injections of human serum containing antibodies is of great interest. In 1908 I proposed a similar method for the treatment of sleeping sickness, not knowing that Thiroux and d'Anfreville had already, in some measure, anticipated me. I was led to suggest it owing to the results obtained in the treatment of cerebro-spinal fever by such injections. Dr. Van Someren gave the method a short trial in Uganda. The results were indecisive, but he admits that the cases were unsuitable for the test, as they were in the very last stages of the disease.

At the present time I am having the effect of urotropin observed in cases of sleeping sickness. I do not yet know if this drug has any trypanocidal action, but it readily penetrates the spinal membranes, and, even if not in itself toxic to trypanosomes and spirochaetes, it may yet serve as a "carrier," somewhat in the same way as it has been suggested certain of the dye-stuffs may act. The experiments are being carried out at Yei in the Southern Sudan by Lieutenant Ranken, R.A.M.C., and I hope ere long to receive a report from him on the subject. It is, of course, quite probable that the results may be wholly negative, but even negative results possess some value in this experimental work, as, if duly recorded, they may indicate along what lines further research should proceed.—A.B.

Wellcome Bureau of Scientific Research,
54A, Wigmore Street, London, W.

THE CRAZE FOR APPENDICECTOMY.

SIR,—It is most undesirable that those who do not undertake operative work should be seized with the idea that surgeons are unduly pressing operations for appendicitis, either in the acute or in the quiescent stage. The public, and to some extent practitioners, almost invite surgeons to abuse the operation of appendicectomy; but, as far as my own observations go, I do not think that there is real abuse, though I readily acknowledge that it may easily arise. Frequently after careful investigations doubt may still remain as to whether or not the appendix is the cause of the symptoms complained of by the patient, yet, with this doubt, it may be quite justifiable in certain circumstances to remove the appendix; and although I personally have failed in some cases to give the relief hoped for, in others what was really an exploratory operation has proved an unmitigated success in relieving the patient of a painful encumbrance. One of the real puzzles at the present time is in what cases of repeated indigestion one can blame the appendix for the symptoms complained of. I hesitate yet to say that I can identify those in which embarrassment of the appendix causes the symptoms; such cases so closely resemble others in which there is some different lesion, such as duodeual ulcer; and yet another group in which no recognizable local disease is found. No one can controvert the relief given to stomach symptoms by the removal of an embarrassed appendix; but clearly, if the removal of the appendix for the relief of dyspeptics is undertaken without great discretion, the belief of the profession and the public in the good faith of the surgeon might easily be shaken.

I do not wish to trespass upon your space unduly, but I would like to quote statistics which I brought forward in a recent discussion in Birmingham; these will be published in full in the forthcoming number of the *Birmingham Medical Review*. I quote these figures because of some observations made by your correspondent, Mr. Arthur Z. C. Cressy. The statistics are taken from the annual reports of the General Hospital, and are as follow:

Year.	Cases.	Mortality.
1906	101	23.7 per cent.
1907	131	18.5 ,,
1908	152	21.0 ,,
1909	193	16.0 ,,
1910	154	13.3 ,,
1911	238	13.02 ,,
1912	240	6.25 ,,

My remarks in this discussion were mainly directed to urging the earliest possible intervention in all cases of acute appendicular mischief, and I was able to point out that the main factors in the improvement in our mortality at the General Hospital are that practitioners send their cases earlier to hospital than formerly, and that all cases are immediately operated upon. It is very striking that our mortality has fallen from 20 per cent., or somewhat more, in the earlier years quoted to 6 per cent. in the year 1912.

Appendicectomy in the quiet interval during the last eight years was performed 1,063 times by the whole of the staff, and there were two deaths—one from the anaesthetic and one from hyperthyroidism. I quote these numbers as showing the extreme safety of the operation in skilled hands. These operations were not undertaken under the temptation of obtaining fees, but in what was regarded sincerely as the real interests of the patients. I am aware, of course, that the mere safety of an operation is not its only justification, but it is one of the factors, and for a fuller justification I will ask those interested in the matter to consider the report of the meeting to which I have referred above.—I am, etc.,

Birmingham, Dec. 9th. GILBERT BARLING.

SIR,—I wish to try to disarm criticism in advance by saying that from lack of experience I do not presume to discuss the type of appendicitis which occurs in towns or what the treatment should be when surgical aid is easily accessible, but, having practised for twenty years in a somewhat remote country district where the old-fashioned people are extremely averse to operation, and where it is often very difficult to get the patient to the surgeon or the surgeon to the patient, I should like to give my experience of the treatment of the disease, as it may interest those practitioners who find themselves similarly situated.

During the above-named period I have, of course, treated dozens of cases; every one has recovered except one old woman of 80, who could not retain enemata, and who, in any case, was not, in my opinion, a suitable subject for operation.

None have been operated on in the acute stage, and not more than two or three have had recurrent attacks, and therefore have required operation during the quiescent period. In all the rest the recovery has been complete without any unpleasant sequelae, and many have been under observation for years in the ordinary course of practice. The treatment adopted has been absolute rest, liquid diet, and the old mist. mag. sulph. c ferro every four hours. ℞ Mag. sulph. gr. xl; ferri sulph. gr. ij; ac. sulph. dil. ♏ x; aq. menth. pip. ad ʒj. The aim has been to induce three or four liquid stools in the twenty-four hours, and to obtain that effect the magnesium sulphate must be increased or diminished as necessary, and an enema may be required to get the bowels to act to begin with.

Under this treatment pain rapidly diminishes, but poultices can be used, and there is no objection to 10-minim doses of nepenthe when required, provided that the bowels are still kept freely open.

Several cases that I should certainly have had operated on if there had been facilities for doing so, on account of the evident presence of an abscess, have recovered just as well as the others, the pus having, I suppose, been

evacuated into the large intestine. I must confess that I have not persuaded many of my professional brethren to believe in this treatment, but, if they will begin by trying it, at all events in those cases that refuse operation, or in which it is very difficult to get an operation performed, I can assure them that they will be surprised and delighted with the results.—I am, etc.,

Vowchurch, Dec. 13th. ARTHUR W. MCMICHAEL.

SIR,—It would be interesting to learn if appendicitis is met with by veterinary surgeons among the lower animals, for it has occurred to me, and may have to others for anything I know, that the prevalence of this disease among the human species may, in some measure, be due to the erect attitude assumed by man in the process of evolution, altering as it would the position and posture of the appendix, and so favour the admission of irritating particles into the cul-de-sac, probably helped by gravitation. We read that the ancients took their food in the recumbent posture (accubation), and there is no evidence that they were subject to this disease. In view of this theory being feasible, and prevention being better than cure, I would suggest that people, especially the young, lie down for half an hour or so after each meal, as a prophylactic measure against the occurrence of appendicitis.—I am, etc.,

Ardrishaig, Dec. 8th. ALLAN WILSON.

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

SIR,—At a meeting of the Board of the Faculty of Medicine on Thursday last I moved the following:

> In continuation of the policy of their interim report, the Board of the Faculty of Medicine advises the Faculty to recommend that in the event of a constituent college or colleges being founded, on the lines of the Report of the Royal Commission, a wider degree of autonomy than that contemplated by the Report of the Commission shall be reserved for the schools, other than the constituent colleges. It recommends that the privilege of reporting direct to the Senate, through the special committee for schools to be appointed by that body, shall not be given up, as the Report of the Commission suggests, when the constituent college or colleges and the new Faculty of Medicine come to be constituted.

This motion was passed *nemine contradicente*, all the members present voting for it with the exception of one, who did not vote.

The discussion left no doubt that the Board would prefer the realization of the suggestions outlined in their interim report, which postulated, if it did not actually say so, that no constituent college or colleges, in the sense of the Commission's Report, should be established, and that no division should thus be introduced into the medical schools of London by setting up a small and privileged class of collegiate teachers and students. But if such constituent college or colleges should actually come into being, the Board equally left no doubt that it greatly disliked the regulation imposed by the Commissioners by which the teachers at the schools would be subordinated to the teachers at the college, a subordination which would inevitably result from the requirement that the new Board of Studies should report to the new Faculty of Medicine, and not direct to the Senate.

A question was raised which becomes important in view of the current consultations between the Departmental Committee and the hospital schools. What action would that Committee take in the event of none of the existing schools consenting to transform itself into a constituent college, in the sense given to that term by the Commission, which certainly must have considered the possibility of such a refusal. The Commissioners, I think, clearly suggest, but do not categorically say, that in that event an attempt would be made to found a new hospital school. The opinions expressed by Mr. Abraham Flexner are so clearly the genesis of the medical recommendations of the Report that Mr. Flexner's statements are often an invaluable gloss where there is any obscurity in the Commissioners' statement. As Sir Henry Morris writes:

> The sections of their report dealing with the Faculty of Medicine are in substance merely an abstract of Mr. Abraham Flexner's "Bulletin No. 6 on Medical Education in Europe" and of his evidence published in the Third Report of the Commissioners. Mr. Flexner's opinions on the preliminary sciences, where and how they should be taught; on the "School unit;" on the interrelationship and mode of studying, and on research in pathology, bacteriology, biochemistry and clinical medicine; on the changes thought to be required in clinical teaching, owing to the rapid progress in sciences related to medicine; on the hospital unit or the German system of clinical instruction and research; and on the question of the "one portal" entrance to the *Medical Register*; are all approved and adopted by the Commissioners. (*Times*, August 14th, 1913.)

Now Mr. Flexner says (Bulletin No. 6, p. 218):

> Let us suppose that London University, reorganized on its teaching side, cut adrift the hospital schools, *creating its own hospital* (the italics are mine) or retaining for the present a single hospital . . . or, more simply still, should by subvention enable one of its constituent colleges—namely, University College—to complete its medical plant on an academic basis by making with University Hospital a contract arrangement giving University College the right to designate and organize its hospital staff. . . . University Hospital would at the moment perhaps answer the needs of London medical students of university grade.

Again, Mr. Flexner, quoted by the Commission (p. 109, top), says:

> The first step in the direction of modernising medical education would appear to lie in the total conversion of an existing school or in *the creation in London of a new school*. (The italics are mine.)

Section 293 obviously indicates that the Commissioners would prefer to utilize one of the existing schools to making a new school, but also shows that they consider the possibility of "creating a new school" if satisfactory arrangements cannot be made with any existing school.

They point out (end of Section 301) that—

> "The hospitals do not belong to the medical schools," and "if they are required for a university faculty of medicine in London the question of privilege of access to the great London hospitals cannot be treated as a matter of private right or decided as if they were the private property of the existing medical schools." They say "the proper course for the university would be to endeavour *in the first instance* to enter into an agreement with the executive authority of one or more of the London hospitals with regard to the future of the hopital medical school (Section 302).

The inference from the clause I have italicized seems obvious, that if this action of the first instance failed, in spite of the public right here laid down to appropriate a hospital to the use of the university, the latter should proceed to establish the new school. Although the Commissioners deprecate setting up an "opposition to the existing medical schools," they plainly foreshadow such an opposition if no existing school wishes to comply with the conditions upon which it could be accepted as a constituent college. Whether they would find it an easy matter to establish a new hospital school with 600 beds is, of course, quite another question.—I am, etc.,

London, W., Dec. 8th. E. GRAHAM LITTLE.

SLEEP AND SLEEPLESSNESS.

SIR,—The admirable papers which have recently been read on sleep, and the discussion which followed, would lead one to believe that there is far too great a tendency to seek out and to isolate a single cause to account for the phenomenon of sleep. The whole trend of the discussion points to sleep being much too complicated a process to have for its origin a single factor—in other words, that almost all the factors or theories which have been discussed are equally important, and must exist together and at the same moment in order to induce healthy or natural sleep—namely, a toxin of fatigue, a modicum of carbon dioxide, a certain blood pressure, cerebral anaemia, and psychic calm; the absence of any one of which is sufficient to banish sleep and produce restlessness.

It seems difficult to understand how any one could express surprise at the resuscitation of the CO_2 theory after hearing so admirable and conclusive a paper as that of Dr. Stoddart. The illustrations he deduces from the habits of animals are, in my opinion, beyond question; but the fact that birds when sleeping keep their heads under their wings, their feathers becoming gradually saturated with CO_2, is not all that could be said in favour of this view. The process is much quicker, for the very position of the head is sufficient at the outset to retard the ingress and egress of tidal air, as also in quadrupeds which curl themselves up after retiring to some close den where the percentage of CO_2 must be comparatively high.

The fact that cattle sleep out in the open air in a less huddled position would perhaps militate against this view, but it should be remembered that during sleep one nostril is generally pressed against the ground or against the body of the animal, and this would considerably retard the process of respiration. At the same time the grass on which they lie and the foliage around them is giving off CO_2; hence the increased presence of this gas after the sun has gone down should be one reason why most animals sleep at night and awake at dawn when plants begin to give off oxygen.

One could, therefore, scarcely imagine a more conclusive proof of the truth of the carbon dioxide theory than Dr. Stoddart's experiments in awaking sleeping patients by the inhalation of oxygen. The care with which his investigations were conducted and their result place the theory far out of range of mere hypothesis. Dr. Robert Jones's objection on the ground that consumptive patients do not sleep well, in spite of the fact that there must be a considerable accumulation of CO_2 in the system, can, I think, in some measure be met by the fact that the rapid heart beats in these cases have a tendency to prevent that "cerebral stasis" which Dr. Crichton Miller seems to think a more likely cause for the induction of sleep than cerebral anaemia. It is possible, too, that the same toxins which probably cause the tachycardia act much in the same way on the cerebral tissues as the toxins of overfatigue, which are believed to produce restlessness rather than sleep. Besides which, these cases are under a constant influence of CO_2, and, like a repeated stimulus, it may lose its effect.

That other theories are also essential to account for the phenomenon of sleep have been sufficiently proved by experiment, but there seem to be very few data to lead one to believe that any one of the factors or theories I have mentioned is of more importance than another, unless, perhaps, it be psychic calm, for if this is absent two other conditions essential to sleep must also be absent—namely, a lowered or a certain required blood pressure and cerebral anaemia or stasis.

I think it is an established fact that the eyeballs turn upwards beneath the closed eyelids during sleep; and certainly when composing oneself for sleep to turn the eyeballs upwards promotes an additional feeling of drowsiness, while to turn them downwards produces entirely the opposite effect, with tremor of the upper lids and a tendency to squeeze the upper and lower lids together.

I do not recollect having advised any patient to try to get to sleep by turning the eyeballs upwards, though it is possible such advice might be beneficial, at any rate in those cases where each ocular muscle is intact and therefore no danger of undue strain.—I am, etc.,

Liverpool, Nov. 13th. WM. BRAMWELL, M.D.

MOSQUITOS AND MALARIA: A CORRECTION.

SIR,—In your issue of November 22nd, p. 1399, you refer to my finding the *Plasmodium malariae* in an indigenous case of malarial fever that was in the Norfolk and Norwich Hospital in 1907. The year should have been given as 1897, and the fact is recorded in the *Journal of Hygiene*, vol. i, p. 31. I believe this was the first occasion on which the *Plasmodium* had ever been demonstrated in the blood of a person suffering from so-called "fen ague" who had never been out of England. My identification of the *Plasmodium* was confirmed by Dr. G. H. F. Nuttall, F.R.S., of Cambridge.—I am, etc.,

Norwich, Dec. 2nd. SYDNEY H. LONG.

TREATMENT OF INSURED INJURED PERSONS IN THE TERRITORIAL FORCE.

SIR,—I am afraid your correspondent (BRITISH MEDICAL JOURNAL, December 6th, p. 1515) has no case. As I read his letter, his patient was injured whilst on duty, whereupon, on reporting sick to the medical officer attached to his unit, a board of his unit should have been summoned, and the proper course as laid down in Territorial Regulations adopted.

This evidently was not done, either because the man did not report sick, or, if he did, the medical officer of his unit either did not grasp the routine in such cases, or did not at the time consider the injury other than trivial. Later he consults your correspondent, his "panel doctor," who gave him proper advice, and a board of his unit met to deal with the case. At this board your correspondent appeared, and could only appear as a civil practitioner, as he neither attended the man when on duty, nor was he summoned to represent the superior medical authority at the board, or to take over the medical charge of the case. Therefore his only position at the board was that of "panel doctor," selected by a person who has paid his money to the insurance; and the "panel" money will be the only "refreshing fruit" your correspondent will receive. On the other hand, had the steps so clearly laid down in Territorial Regulations been carried out, there is a probability that instead of the case being treated at a military hospital, or under the charge of a R.A.M.C. officer, it would have been handed to your correspondent, when he would have been paid by scale.—I am, etc.,

Bletchley, Bucks, Dec. 7th. P. BROOME GILES.

THE SUBSCRIPTION TO THE ASSOCIATION.

SIR,—The discussion upon the proposed increase of the annual subscription is most illuminating. One speaker informs us that because the average attendance at meetings of the Association is 10 per cent.—that the minority are dictating to the majority by saying how much the Association should charge the majority. If the majority will not assist in the working of the Association, and the minority do, often at very great inconvenience and financial loss, surely the minority in numbers but the majority in practical interest should have the greatest power in determining any important change. Touch the pockets of the majority, and what a change comes over the scene. Well do I remember the crowded meetings when the Insurance Act was under discussion. The largest meetings were held at the busiest time of the year.

Again we read, "the only way in which the question of raising the subscriptions could be settled was by a direct postal vote." I have not to travel very far to answer that if this be the only way, then there is no way by which the question can be settled. On p. 517 of the SUPPLEMENT of December 6th we read that a direct postal vote was taken by the Secretary of the Bedfordshire Medical Committee; 99 circulars were sent out, and 72 replies had been received at the date of the report. But, even more striking still, I read on p. 500 of the same SUPPLEMENT that Dr. Goodbody took a postal vote in the Marylebone Division. He sent out 665 cards and got back 388. Where were the 277? What was the real value of this postal vote? I have had experience of the postal vote in the Bedfordshire Division, and a more unsatisfactory method of obtaining a true verdict I cannot conceive. The reason is that half the members of the profession suffer from profound coma. An earthquake, like the Insurance Act, is the only thing which will arouse them.

If the Chairman of the Council were a semi-paid official with control over the whole of the Association, and even if he were the Archangel Gabriel, there would still be malcontents who would do their utmost to oust him from office. Some of the members cry aloud for more democratic government; others would appoint a king. We are told that the great attraction of the Association is the JOURNAL. I have asked a member the question why he remained a member, and he has replied, Because it is the only body capable of fighting the battles of the profession. Here, then, we have another class of member. If the Association is not to continue a fighting body, what is to replace it? Are we to create a new fighting body (at considerably greater cost than the subscription the Association has asked us to subscribe in order to render it thoroughly efficient), and probably during its creation be overtaken by some attack from the Government and overwhelmed. We have the machinery erected. Let us supply it with the necessary power. Dr. Lawson hit the mark when he said that eighteen months ago there was an accession to the membership of between 2,000 and 3,000 members, who had been brought in because there was some danger to their bread-and-butter under the Insurance Act.

Cannot we be a little less selfish and study the welfare of the profession as a whole? When, in generations to come, our successors read of all these petty quibbles and the childish attitude adopted by certain members who say, "If you do not do as I tell you I shall resign," I think

that their thoughts will be those of pity for the officials of the Association and disgust at the small-mindedness and short-sightedness of certain of its members. We all have sympathy with the young practitioner starting in his profession, but, after all, if a popular sports club had an annual subscription of even £5 5s. our practitioner would not be deterred from joining it if he wanted to do so. After all, most of us live out of our profession, and should deny ourselves some of the pleasures of life in order that we may adequately support the Association financially.—I am, etc.,

Bedford. S. J. Ross.

SIR,—In the lay press report of the recent Representative Meeting, when it had been proposed and seconded that the question of the fee to be paid by approved societies to medical referees be left to each locality to decide for itself, that is, to local option, the Chairman of the Council is reported to have said that this local option was the curse of the profession. Only a few hours previously fears had been expressed that the raising of the subscription to 2 guineas would be made the excuse by a good many members for resigning the Association. Why, we ought to ask ourselves, should members want to leave the Association? Why is there any hostility to the Association, especially now when it has been successful in raising the income of the majority of men who have gone on the panel? I have worked for many years for the Association; I come into close contact with men of all ranks in the profession, and I am certain that whatever feeling there is against the Association is not due to the main lines of its policy, but to its continual interference or attempted interference with the liberty of the individual in little matters that are of no importance.

In this matter of the fee to be paid to referees, is the Council aware that it has to be paid out of the administrative funds of the societies and not out of the sick benefit fund; is it aware that a fee of 10s. 6d., if paid, would spell ruin for the approved societies, and is it aware that nineteen out of twenty general practitioners will willingly examine a private patient for less than 10s. 6d.?

In spite of the rise in the subscription I gather that the Association will still have to economize as much as possible. May I suggest one great economy—abolish the Representative Meeting? It is a great expense to the Association. Its members are so tied by their instructions that they are mere voting machines. A postal referendum would be much cheaper and quite as efficient. It could be taken on important matters, while minor matters could be left in the hands of a good council. When the Divisions meet to discuss matters it might be open to them to decide what shall be submitted to a referendum and what to the Council. We are no better off in the Birmingham Central Division with four Representatives than we used to be with one, and we cost the Association four times as much.—I am, etc.,

Birmingham, Dec. 8th. J. FURNEAUX JORDAN.

*** A report of the remarks made by the Chairman of Council will be found at page 532 of the SUPPLEMENT for this week.

LONDON MEDICO-PSYCHOLOGICAL CLINIC.

SIR,—Much publicity has been given to a meeting which was lately held in a hall lent by University College—and for which the College was therefore in no way responsible—to consider a proposal to found a medico-psychological clinic. But the press reports of this meeting have been almost monopolized by detailed accounts of the speech of its chairman, Lord Sandwich. His speech cannot be taken as expressing the views of those really responsible for the project. It consisted chiefly in the description of cures which he claimed to have effected himself by the exercise of some apparently occult power. Now the declared object of the clinic was to "bring about a practical alliance between general psychology and psychotherapy." The medical staff have already (in a letter to the two leading medical journals) dissociated themselves from this speech. Having been invited to represent the "general psychology" of the clinic, I should like unreservedly to join in this dissociation.

The notion of the clinic was started by some medical practitioners who, working with myself, realized the great change that is coming over psychology. Formerly it was little more than an occasional hobby of leisure hours. At the present moment there are thousands of enthusiastic workers all over the world giving their lives to psychology as a profession, accurately experimenting with the mind in the laboratories, minutely observing it in hospitals and asylums, making patient records in the nursery and the schoolroom, scouring the earth for its least civilized manifestations, and illuminating it by elaborate study of the conduct of the lower animals, and even of plants. Concomitantly there has been evolved an elaborate technique of procedure and apparatus. The aim of all this is the gradual ascertainment of mental law, and the corresponding control of mental event. Just as physical science has taught us to build, to mine, to telegraph, and to fly, so, too, psychic science is beginning to show us how to train up the growing intellect, emotions, and will; how to diagnose their condition, to maintain them in health, and to heal them when sick. Occultism is not only alien to the spirit of the proposed clinic; it is in direct contradiction of it.—I am, etc.,

C. SPEARMAN,
Grote Professor of Mind and Logic, University
London, Dec. 9th. of London, University College.

Medico-Legal.

AGREEMENTS WITH ASSISTANTS.

IN the Nottingham County Court, on November 19th, Drs. H. J. Neilson and A. Fulton, of Bulwell and Basford, successfully defended an action brought against them by a former assistant, and were successful also on a counter-claim made by them for money lent. The plaintiff, who subsequent to his connexion with the defendants had started in practice in Bulwell, claimed payment of a sum of £28 10s. in respect of salary, expenses of removal, and damages for wrongful dismissal.

He was in the service of the defendants from February 19th to February 28th, and was then dismissed because he refused to sign an agreement restricting him from practising in the neighbourhood on the termination of his assistantship. His contention that any contract for service had existed between himself and the defendants rested partly on oral communications which had passed between them, partly on letters. These letters had not been stamped, and early in the hearing of the case the judge pointed out that unless the letters were stamped and the ordinary penalty for non-stamping of agreements was duly paid, they could not be put in as evidence. They were at present an essential part of the plaintiff's case, and they would still remain an essential part thereof even if a new statement of claim were allowed to be made. He would, therefore, have to non-suit the plaintiff. Eventually, however, he allowed the plaintiff to support by his evidence the statements made on his behalf by his counsel on a wish being expressed by the defendants that the plaintiff should not be debarred from stating his case. The evidence then given by the plaintiff was to the following effect:

He had applied for employment by the defendants owing to an advertisement in the BRITISH MEDICAL JOURNAL for an assistant, in which no reference to a restrictive agreement had been made, and at the interview and in the letters which resulted in the engagement the fact that he would have to sign a restrictive agreement was not mentioned. It was not mentioned at all until the tenth, or last, day of his service, and on his then refusing to sign such an agreement on the ground that doing so was not part of his contract, he was dismissed. The cross-examination included the following suggestions: That the necessity of his signing a restrictive agreement had, in fact, been mentioned on the first day that he saw either of the defendants, and that two days after he had taken up his work a copy of the agreement which it was proposed he should sign had actually been handed to him in the presence of a witness; that in connexion with a previous engagement he had been accused of a breach of a restrictive agreement; that he had stated to a third party on the day of his dismissal that he had been previously advised never to sign a restrictive agreement, and that he intended to go round to all the patients he had seen, telling them how he had been treated; that at a subsequent interview with the same third party he had stated that he was going to bring an action, because it would be a good way of advertising himself to get panel patients even if he lost, and that he had originally sought the assistantship to the defendants because he noticed that their advertisement said nothing about a restrictive agreement, and he thought that if they could give so large a salary as that offered there must be a good opening in the place. The plaintiff did not admit the truth of any of these and some other suggestions, but admitted that a few days after he had begun work he had complained that there was more of it than he had expected, and that he had been given a day's leave of absence to visit another town to see whether there was any opening for him. He also admitted that he knew that the other assistant of the defendants had been with the firm for eight years, and that a previous assistant had been

with them for fourteen years, and would like to be there again. He alleged, however, that he knew that one assistant had left and had committed suicide, though he did not know the name of this person or where or when the event had taken place. On this the judge intervened with a remark to the effect that it was disgraceful to make allegations which could not be supported.

Eventually the court non-suited the plaintiff with costs, and gave judgement against him also on the counter-claim, adding that there was not a shadow or tittle of evidence of any sort to show that the defendants had ever ill-treated their assistants in any way.

CLAIM IN RESPECT OF AN AUTOPSY.

IN the Court of Sessions at Glasgow, on November 20th, Lord Anderson gave judgement in a case which had occupied the time of the court for about two days, and had previously in one form and another been the subject of other legal action. It was a claim for damages in respect of alleged injury done to the widow and children of a deceased miner, owing to the defendant, Dr. Robert C. Robertson, of Kilmarnock, having performed a *post-mortem* examination without their permission. The case was reported in the *Glasgow Herald*.

Lord Anderson commenced the delivery of his judgement by pointing out that, though the case might be important from the point of view of the plaintiffs, it was much more important from that of the defendant, since he was under the stigma of a charge of illegal action. He held that the defendant in performing the *post-mortem* examination had not acted illegally, and dismissed the claim of the plaintiffs with costs against them.

The general facts of the case were as follows: The deceased, after some days' illness, was admitted to hospital in a condition which pointed to intestinal perforation, and with the consent of the plaintiffs, the defendant performed an exploratory operation forthwith. Two days later the patient died, and the plaintiffs then asked the defendant for a certificate as to the cause of death, they having meantime informed the employers of the deceased that he was ill, and lodged a claim for compensation on the ground that his illness was due to an accident. On being asked for a certificate the defendant said he would have to examine the body, and subsequently conducted a necropsy, discovering thereat conditions which, in his opinion and in those of two colleagues present, were inconsistent with a view that the deceased's illness was the result of an accident. This fact he communicated to the plaintiffs and also to the employers of the deceased.

The plaintiffs eventually obtained compensation under an order of the sheriff's court.

In the course of his comments on the case Lord Anderson said that no point of law was really involved, since it was well recognized that a solatium for hurt feelings could be obtained by the nearest relatives if a *post-mortem* examination were conducted without due authority. But in the present case he could not believe that the plaintiffs' feelings were really hurt, since when they found that the defendant had formed a view hostile to their claims they caused the body to be re-examined by three other medical men, and must have known that such re-examination involved reopening of the body and acts equivalent to dissection. He also did not believe that before the exploratory operation was performed the defendant had been made aware that the patient's condition was attributed to the occurrence of an accident while at work, and on comparing the defendant's statements as to what passed when he was asked for a certificate with the plaintiffs' statements, he believed the former were the more accurate, and that he had received what he was entitled to regard as authority to conduct the necropsy. He also held that the defendant had acted properly in removing the intestines and causing them to be burnt forthwith, since they were gangrenous, and he did not believe that he had failed to replace the heart. Whether if he had been proved not to have done so this fact would have entitled the plaintiffs to redress was a delicate question, in regard to which he was not required to express an opinion. It was not necessary that permission to perform a *post-mortem* examination should be given in writing, though for their own protection medical men would be wise, perhaps, to secure this.

Dr. Robertson's defence was conducted by the Medical and Dental Defence Union of Scotland.

THE London office of the *Sydney Morning Herald*, 40, King Street, Cheapside, E.C., has issued the annual time-tables of the Australian and New Zealand mails for 1914, covering the whole of the services between Europe and Australasia, and containing full information of postal and cable rates, in a handy form for the pocket. Copies may be obtained gratis.

Concrete and Constructional Engineering, in its December number, announces a competition for labourers' cottages. The issue further contains articles by Harold Holt on "Concrete in Cotton Mills"; illustrated descriptions of a reinforced concrete dome in Melbourne, and a washery for the Silkstone Collieries, Limited. The second report of the Institution of Civil Engineers regarding reinforced concrete is fully dealt with. Other interesting matter is contained under the heading, "Recent Views" and "New Works."

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—J. W. Linnell.
M.B., B.C.—H. W. Barnes, V. F. Soathill, W. A. Stokes.
M.B.—G. M. Parker.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on November 19th.

Proposed Reconstitution of the University.

A letter from the President of the Board of Education regarding the proposed reconstitution of the University was referred to the Academic Council, the Council for External Students, the Board to Promote the Extension of University Teaching, and to the Site and Accommodation Committees respectively for consideration and report.

Reader in Pathology.

The title of Reader in Pathology in the University of London was conferred upon Dr. William Hunter, of Charing Cross Hospital Medical School.

Regulations for B.Sc. Honours Degree.

It was reported that the regulations for the B.Sc. honours examination for internal students in physiology and in human anatomy and morphology had been amended as follows:

1. By the substitution of the following for the four h paragraph on p. 174:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter for the degree of B.Sc.(Honours) in physiology or in human anatomy and morphology, provided that after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over not less than one year approved for the honours examination in a school of the university or under a recognized teacher (see regulations for internal students in the faculty of science), and provided that they comply with the regulations in other respects, but in no case may a student present himself for a degree examination unless he has completed a three years' course of study as an internal student.

2. By the substitution of the following for the footnote on p. 237:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter for the degree of B.Sc.(Honours) in physiology (see p. 250) or in human anatomy and morphology (see p. 251), provided that after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over one year approved for the honours examination in a school of the university or under a recognized teacher, and provided that they comply with the regulations in other respects, but in no case may a student present himself for a degree examination unless he has completed a three years' course of study as an internal student.

3. By the substitution of the following for the last paragraph on p. 238. (The paragraph is identical with that under (2) above):

4. By the substitution of the following for the first paragraph under the heading physiology on p. 250:

The degree is open to the classes of candidates enumerated under (*a*) and (*b*) below:

(*a*) Students who have (i) passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students, and (ii) subsequently to attending prescribed courses in physiology and anatomy for the second examination for medical degrees, Part II, pursued in approved course of study . . . B.Sc. honours examination.

5. By the substitution of the following for the first paragraph under the heading human anatomy and morphology on p. 251:

The degree is open to the classes of students enumerated under (*a*) and (*b*) below:

(*a*) Students who have (i) passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students, and (ii) subsequently to attending prescribed courses in human anatomy and morphology for the second examination for medical degrees, Part II, pursued a further approved course of study extending over not less than one year. Such students must have attended at some time previous to the degree examination in addition to the courses presented for the second examination for medical degrees.

6. By the substitution of the following for the footnote on p. 251:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter the degree of B.Sc. (Honours) in human anatomy and morphology provided that, after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over not less than one year approved for the honours examination in a school of the university or under a recognized teacher, and provided that they comply with the regulations in other respects, but in no case may a student present himself for the degree examination unless he has completed a three years' course of study as an internal student, and passed either (1) in anatomy and physiology at the second examination for medical degrees, Part II, or (2) the intermediate examination in science subject to the conditions given under B. below.

Lecturers in Physiology.

Dr. Hugh MacLean was added to the panel of lecturers in physiology.

B.Sc. Honours Degree in Physiology.

The resolution of the Senate of July 16th, 1913, was rescinded, and the following inter-collegiate courses were recognized as advanced lectures which a candidate for the B.Sc. Honours

Examination in Physiology may name for part of his examination. (Red Book, 1913–14, p. 250; Blue Book, September, 1913, p. 308.)

University College.—Physico-Chemical Methods in Physiology, by Professor W. M. Bayliss.

King's College.—The Chemistry of Urine, by Professor W. D. Halliburton and Dr. O. Rosenheim. Third term.

Bedford College.—Advanced Histology, by Dr. J. S. Edkins and Miss May Tweedy. Third term.

St. Bartholomew's Hospital.—Central Nervous System, by Dr. J. S. Edkins and Dr. Hinds Howell. Second term.

Guy's Hospital.—Respiratory Exchange, by Dr. M. S. Pembrey. First Term. October-December, 1913: Methods of Investigating Acidosis, by Dr. E. L Kennaway and Mr. E. P. Poulton; Investigation of Movements of Alimentary Canal by the *X* Rays, by Dr. A. F. Hertz.

Chadwick Trustees and Teaching in Hygiene and Municipal Engineering.

The Senate adopted a resolution of thanks to the Chadwick Trustees for their offer to the university of a grant of £250 a year for the next three years for the purposes of the Chadwick Professorship of Hygiene and of the teaching of municipal engineering in University College, and to continue the award of the Chadwick medal upon terms to be arranged between the trustees and the university.

Regulations for M.D. and M.S. Degrees.

The regulations for the M.D. and M.S. examinations for internal and external students relating to recognized institutions and appointments to be held by candidates before admission to the examinations for these degrees were amended. Copies of the new regulations may be obtained on application.

Physiological Laboratory Committee.

Sir David Ferrier has been elected chairman of Physiological Laboratory Committee for the year 1913–14.

Advanced Lectures in Physiology.

The following lectures will be given during the second term of the session 1913–14:

King's College.—Four lectures on carbohydrate fermentation by Mr. Arthur Harden, D.Sc., F.R.S., on Mondays, at 4.30 p.m., commencing January 26th.

Guy's Hospital.—Eight lectures on physiological effects of anaesthetics and narcotics.

The lectures, which will be illustrated by experiments, are free, and are addressed to advanced students of the university and to others interested in the subjects dealt with.

The course of lectures by Dr. C. Lovatt Evans on oxidation in the tissues, announced to be given at University College during the second term, has been transferred to the third term.

Lectures by Superintendent of the Brown Animal Sanatory Institution.

A course of five lectures given in accordance with the will of the late Mr. Thomas Brown were commenced by Mr. F. W. Twort, Superintendent of the Brown Animal Sanatory Institution, on December 8th. The lectures, which are being given in the theatre of the Royal College of Surgeons of England, are free without tickets. They deal with the cultivation of animal and vegetable micro-organisms, and the last two lectures will be given on December 15th and 17th, at 5 p.m. on each day.

UNIVERSITY CALENDARS.

THE academic calendars which have reached us recently include those of the National University of Ireland,[1] of the University of Bristol,[2] of the University of New Zealand,[3] and of King's[4] and University College,[5] London. All such volumes inevitably present a great family resemblance, but it is by no means inevitable that they should be mines rather than ready sources of information. They are not intended solely for use within the precincts of the body to which they relate, and it should be far easier than it is to find in them the information that they supply on various special points, and having found a section bearing upon it to make certain that no other paragraph really material thereto is contained in the volume. It is difficult from these volumes to obtain a general conspectus of the work of the university, and as a rule nothing is provided in the way of an outline sketch of the history of the institution to which the volume relates. To the latter rule in the present case the calendars relating to University College and King's College are both, however, happy exceptions, and, like the calendar of the University of Bristol, they provide indexes as well as tables of contents; but these are not as full as would be convenient.

QUEEN'S UNIVERSITY, BELFAST.

Magrath Clinical Scholarship.—This scholarship of about £112 per annum was founded under the will of the late Mrs. Fanny Magrath, widow of Dr. J. Magrath, an old student of Queen's College, Belfast. Mrs. Magrath died in May, 1912. The consideration of the report of the Standing Committee and of the proposed regulations of the scholarship was resumed at the last meeting of the Senate in the beginning of December, and the regulations were adopted. It will be awarded annually for proficiency in clinical reports of cases; it is tenable for one year and open to students in the fourth year of their attendance at hospital. The regulations will shortly be published, and it is hoped that a sufficient sum will have accumulated to meet expense and allow competition in 1914.

[1] National University of Ireland. London: Longmans, Green and Co. 1913.
[2] University of Bristol. Bristol: The University. 1913.
[3] University of New Zealand. Wellington: Whitcombe and Tombs, Ltd. 1913.
[4] King's College, London. London: R. Clay and Sons, Ltd. 1913.
[5] University College, London. London: Taylor and Francis. 1913.

Obituary.

PERCY KINGSLEY STEELE, M.B., CH.B.VICT.UNIV., F.R.C.S.ENG.,

HONORARY SURGEON, ROYAL HALIFAX INFIRMARY.

IN the brief space of seven years' practice in Halifax, Percy Kingsley Steele had a career of importance and distinction. After a short illness, he died on December 1st, at the early age of 32 years. During his student days Dr. Steele gave promise of a brilliant career. At the Victoria University (Leeds), as the Leeds School was then known, he obtained high distinction in the class examinations. While still a student at Leeds he passed the primary examination for the Fellowship of the Royal College of Surgeons of England. He graduated M.B., Ch.B.Vict. Univ. with honours when 22 years old. At the Leeds General Infirmary he was house-surgeon for twelve months, house-physician for twelve months, and resident assistant surgeon for more than a year. For another year he attended post-graduate courses, and part of this time was spent at the London Hospital. He took the diplomas of M.R.C.S., L.R.C.P.Eng., in 1906, and six months later became F.R.C S.Eng., when 26 years old. Seven years ago he joined his father, Dr. S. H. Steele, who had been in practice in Halifax since 1885.

His brilliant student career and exceptional experience entitled Dr. Percy K. Steele to early recognition, and he was soon appointed honorary surgeon to the Royal Halifax Infirmary, a post he held up to the time of his death. He quickly demonstrated that the honour had been well and judiciously bestowed; he became a valued member of the staff and a skilful surgeon, assiduously devoted to his duties and held in the highest esteem alike by the board of management and the patients who came under his care. For several years Dr. Steele was honorary secretary to the Halifax and District Medical Society, and showed a capacity for business which marked him out for the secretaryship of the Local Medical Committee for Halifax; to this post he was unanimously elected, but only with reluctance, which characterized his modesty of disposition and his shrinking from publicity, was he persuaded to undertake the duty. Having done so, he threw himself into the work with avidity, and quickly acquired a grasp of the Insurance Act and the regulations affecting medical men such as few possessed. His early training at the New School, Halifax, and his natural aptitude were displayed in his well ordered, methodical and succinct communications with the Local Insurance Committee, the State Sickness Committee of the British Medical Association, and the Insurance Commissioners. Dr. Steele's talents were by no means confined to the sphere of professional knowledge and attainments. A knowledge of mathematics is not to be dispensed with in preparing a scheme for the allocation of persons who had not selected a doctor and the division of the remaining funds, and this Dr. Steele displayed in the carefully evolved scheme submitted by him to his committee; and a report on the work of the year, on which he was engaged at the time of his death, is so complete and lucid that it will rank as a model. Dr. Steele took no active interest in politics or ordinary public affairs. He was, however, keenly interested in the work of the Royal Army Medical Corps, and was Lieutenant of the Halifax Company. Notwithstanding the inclemency of the weather on the day of his funeral, there was a very large and thoroughly representative attendance of medical men in Halifax and district. There were nearly a hundred floral tributes, and abundant indication of the esteem in which he was held by the profession and his numerous friends. Dr. Steele's death at the age of 32 closes a distinguished career before it had reached full fruition. A sense of the deep loss to the profession prevails throughout the district, and there are misgivings lest Dr. Steele's unceasing devotion to the manifold duties of the secretaryship during this year of stress may have contributed

materially to a state of health which prevented his recovery from his illness.

Dr. PRIESTLEY LEECH (Halifax) writes: I knew Percy Steele as a boy, student, and later on as a colleague. In all these aspects the quality that struck me most was his intense devotion to work and what he believed was his duty. Like most men with any character, he improved on acquaintance. He had worked hard at school, at the university (where he had gained many distinctions and prizes), and later on in Halifax in his private practice, at the hospital, the R.A.M.C.(T.), and during the last two years on the Local Medical and Insurance Committees. As Secretary to the Local Medical Committee, his fondness for work found full scope, and its successful conduct is due to a great extent to his acquaintance with the details of the Insurance Act, and to his tact in dealing with the communications between the two committees.

At the hospital he was devoted to his duties, and was a very neat and successful operator; in the general work of the hospital one was most struck with the common-sense way he judged things, and his too early death is a great loss to the staff and the hospital.

One appreciated his character more during his last illness, when it fell to my lot to attend him in association with his father. He was very, very patient and never grumbled, and although a day or two before he died he suffered intense agony he never growled at having to suffer as he did. His illness began with pneumonia, which subsided by lysis on the seventh day, when he appeared to be quite well, but the same evening he began with symptoms of pneumonococcal meningitis, which subsided three days later, only to recur with increased violence the day after. This attack subsided in two or three days, and for nine or ten days he was quite well and talked about his future work. On my advice he resigned his secretarial work, but disappointment was again in store for everybody; for five days before his death pain in his back and along the sciatic nerves came on, and became intense until two days before his death, when head symptoms recurred, and he became comatose some twenty hours before he died. His early death, which cut short a most promising surgical career, has been a great blow to his many friends in this part of Yorkshire.

HUBERT LISTON WILLCOX, M.R.C.S., L.R.C.P., WARMINSTER

THE death of Dr. H. L. Willcox, of Warminster, Wiltshire, on December 3rd, due to accidental wound infection during an operation for septic peritonitis, has caused deep regret throughout the district, and of this striking evidence was afforded by the public sympathy shown on the occasion of the funeral on December 6th. Hubert Liston Willcox, who was the third son of Dr. R. Lewis Willcox, of Warminster, was born in December, 1876, and received his early education at Warminster Grammar School and Cheltenham College. He was a medical student at King's College, London, and was afterwards house-surgeon to King's College Hospital. Whilst at school he was a member of the cadet corps, and afterwards took a great interest in the Volunteer movement, and was for five or six years a lieutenant in the 1st Wilts Rifle Volunteer Corps. When the Territorial Force was established he displayed great interest in the movement. He took the diplomas of M.R.C.S., L.R.C.P. in 1901, and in the following year he joined his father in practice at Warminster, where he earned the respect and esteem of all the inhabitants, both rich and poor. He was surgeon to the Warminster Cottage Hospital, and was actively engaged in practice until February last, when he suffered from a severe illness. From this he recovered, and returned to work at Warminster in July, but on November 5th, when operating with his father on a case of septic peritonitis, his finger was scratched by a needle. Intense local infection ensued, and within forty-eight hours he was very seriously ill; light pleuritic intusion occurred, and, after two aspirations, Dr. Swain of Clifton, who saw him in consultation with Dr. Symes of Clifton and Dr. Hogan of Warminster, performed a larger operation on November 16th; the fever and other signs of systemic infection did not pass away, and after a consultation with Mr. Burghard, surgeon to King's College Hospital, a further operation was performed on November 25th. It appeared, however, that the pulmonary glands had already become infected, and the severity of the attack proved too great for his strength. At an inquest which was held on December 4th, the Coroner said that he was voicing the feelings of everybody present when he expressed their very deep sympathy with the widow of Dr. Hubert Willcox, and with his father and mother and brothers. Doctors had often, he said, to face risks of this sort, and if a man who lost his life in defending his country was entitled to honour, surely the doctor who lost his life fighting human pain, sickness, and disease was similarly entitled. The foreman of the jury, in returning a verdict to the effect that death was due to blood poisoning, said that the jury unanimously expressed their sympathy with the bereaved family.

MR. THOMAS WILSON, of Edgeworthstown, co. Longford died on November 23rd, aged 74. He studied medicine in the Meath Hospital, Dublin, and in the Royal College of Surgeons in Ireland, and took the diploma of M.R.C.S.Eng. in 1866, and the L.R.C.P.I. and L.M. in 1868. For a short time after qualification he held the appointment of medical officer to the infirmary, Brentford, Middlesex, but soon returned to his native country, and practised for forty years in Edgeworthstown. He became J.P. for co. Longford and medical officer to the Royal Irish Constabulary and the Midland and Great Western Railway of Ireland. His son, Mr. Henry Wilson, holds the appointment of assistant prosector, under Mr. William Pearson, to the Museum of the Royal College of Surgeons, Lincoln's Inn Fields.

Medical News.

THE fifteenth South African Medical Congress will be opened at Kimberley on July 6th, 1914, and will close on July 11th.

MR. AUSTEN CHAMBERLAIN has recently received £200 from the Government of Trinidad and £150 from the Government of Sierra Leone as contributions to the fund for the extension and development of the London School of Tropical Medicine.

THE title of Professor has been conferred on Dr. Rachel Hirsch, assistant in the second medical clinic of the Berlin Charité. She is well known by her investigations on internal secretions and diseases arising from their suppression or disturbance.

THE King has been pleased to promote to be a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England Colonel William Henry Bull, F.R.C.S., K.H.S., of Stony Stratford, Assistant Director of Medical Services, South Midland Division.

THE committee hopes that many old students will attend the second annual dance of the Birmingham School of Medicine to be held at the Edgbaston Assembly Rooms on December 18th. Guests will be received by the Dean and Mrs. Thompson at 8 p.m. Tickets can be obtained from Mr. Cyril A. Raison, the University Club, Birmingham.

THE lecture by Professor Richard Caton on the health temples of ancient Greece and the work carried on in them, to be given in connexion with the Section of the History of Medicine of the Royal Society of Medicine at the house of the society, 1, Wimpole Street, W., on Wednesday, December 17th, at 5 p.m., will be open to all interested in the subject.

THE Savill Prize and Medal of the West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, London, has been awarded to Dr. Thomas Knowles Boney; the subject set was myasthenia gravis. The prize and medal were founded in memory of the late Dr. Thomas Savill, physician to the hospital. Candidates are required to attend at least twenty-five demonstrations in the out-patient department, to pass an examination, and to submit a thesis on a given subject. The next examination will probably be held in July.

THE Metropolitan Asylums Board has arranged for the benefit of candidates for the diploma in public health a three months' course of lectures and demonstrations in hospital administration at the North-Western Hospital.

Hampstead, by Dr. J. McCombie, on Mondays and Thursdays at 5 p.m., beginning on Monday, January 5th; at the Grove Hospital, Tooting, by Dr. J. E. Beggs, on Mondays and Thursdays at 5 p.m., beginning on Thursday, January 8th. The fee for the course is 3 guineas. Further particulars can be obtained on application to the Clerk of the Metropolitan Asylums Board, Embankment, London, E.C.

A MEETING of assistant medical officers of public asylums in London and the South-East of England was held on December 5th, at which the following resolution was unanimously passed: "Whereas there is widespread discontent on account of the disabilities under which assistant medical officers labour: Resolved, that this meeting elect representatives to meet representatives from other parts of the country to set up an association of assistant medical officers." Similar resolutions were passed at Birmingham, Manchester, and Bristol. Communications expressing sympathy with the object of the meetings have been received from all but fourteen asylums in England and Wales.

THE problem of the way in which intervals are bridged over between outbreaks of yellow fever, is mentioned in the last issue of the *Bulletin* of the Yellow Fever Bureau (vol. iii, No. 1). All available evidence, it is stated, points to the occurrence of atypical, probably mild, cases in natives, especially in native children, though exact knowledge of the character and frequency of such cases is still lacking. The problem is very important, but probably is not so simple as the explanation given above, at least for places like the West Indian Islands. As the *Bulletin* truly observes, if this mystery could be satisfactorily solved, a very great step forward would be made in our knowledge of yellow fever.

AT the opening of the winter session Sir C. Pardey Lukis, Director-General of the Indian Medical Service, gave an address at the London School of Medicine for Women on the medical needs of India. The address, which was published in our columns on October 4th, outlined a scheme for an Indian service of medical women. We are informed that the Association of Registered Medical Women passed the following resolution on December 2nd: "That the Association of Registered Medical Women, while recognizing that the proposed scheme for a women's medical service in India in many respects offers improved conditions for the work of women under the Dufferin Fund, desires strongly to protest against the scale of remuneration offered, which is entirely inadequate for the work which the medical women are asked to undertake; and also the subjection of medical women to a lay committee for the constitution of which no guarantee is offered, yet which has the power of punishment for acts of which the committee may disapprove. The association feels that these defects will be fatal to the success of the scheme, since no first-rate medical women will consent to work under such conditions."

IN accordance with time-honoured custom, the Worshipful Society of Apothecaries entertained the new Lord Mayor, Sir Vansittart Bowater, and the Sheriffs of the City of London at a dinner given in the hall of the Society on November 28th. The other guests included Dr. Norman Moore as representative of the Royal College of Physicians, Mr. Makins as representative of the Royal College of Surgeons, and the President of the Pharmaceutical Society. The Master of the Society, Dr. Martindale Ward, referring to Sir Thomas Boor Crosby, who was present, said that there were sitting at table the oldest man and only medical man of recent times ever elected to the great office of Lord Mayor of the City of London, and also, in the person of the new Lord Mayor, one of the youngest of the long line of occupants of the great civic chair. The toast to the Royal Colleges was proposed by the Senior Warden of the Society, Mr. Meredith Townsend, who gave an account of the connexion of the three bodies in early and recent times. The toast to the visitors, proposed by the Junior Warden, Dr. George Amsden of Islip, was acknowledged by the President of the Pharmaceutical Society. Just before the dinner a court of the Society was held for the purpose of electing Sir William H. Power, F.R.S., late Principal Medical Officer of the Local Government Board, an honorary freeman of the Society in recognition of his services to the State in regard to public health. The gold medal of the society was presented on the same occasion to Mr. J. E. Harting, in acknowledgement of services rendered by him in assisting the late Master, Dr. Bramwell Taylor, in the preparation of a catalogue of the Society's library.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

"ST. KITTS" seeks suggestions as the etiology and treatment of cases which may be described as follows: The patients complain of a sensation of chilliness occurring sometimes daily, sometimes at intervals, and at no particular hour. This is not followed by pyrexia, and the patients present no evidence of either malaria or filariasis. The blood of one patient known to have had malaria previously was examined and found to be normal. One patient in whom the chilliness is confined to half of the body suffers from congestion of the liver, and most of the others suffer more or less frequently from neuralgic disorders and dyspepsia.

INCOME TAX.

C. has been in practice as an ophthalmic surgeon for two months only. Previously he was acting as an assistant, and for one year as a house-surgeon. He has received an income-tax form, and asks how the return should be made. If the practice has been taken over as a going concern, our correspondent is bound by his predecessor's average profits, subject to his right to appeal at the end of the year if his first year's profits should fall short of the sum assessed by reason of some specific cause (Rule 4, Cases 1 and 2, Sch. D). If, on the other hand, the practice is an entirely new venture, page 2 of the form of return should be completed with an estimate of the profits anticipated during the first year of the new practice, and page 3 of the form should be completed if applicable. As the present income falls under a different category from the previous receipts, which were in respect of an "employment," the three years' average clause does not appear to apply. Any receipts from voluntary sources may be ignored, whether expended in starting the practice or otherwise.

LETTERS, NOTES, ETC.

TREATMENT OF TERTIARY SYPHILIS.

DR. R. HITCHINGS (Headington, Oxford) writes: *Re* query in BRITISH MEDICAL JOURNAL, November 29th, in reply to a "Country Practitioner":—In bad syphilitic ulcers of the leg or elsewhere I have had really remarkable results by dressing with a solution of Parke, Davis and Co.'s "Mercurol"; this in cases which showed very little healing tendency under the ordinary constitutional treatment.

*** Mercurol is a combination of mercury with nucleinic acid analogous to nargol and cuprol.

REX. V. HAMILTON.

DR. W. H. GIMBLETT (85, Sutherland Avenue, Maida Vale, W.) has received the following subscriptions in addition to £62 13s. already acknowledged: Mrs. Grant (Barnes), £1 1s.; Mr. Randall (Barnes), £2 2s.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.